

# AIRFIX

magazine

FOR PLASTIC MODELLERS

monthly 18p

October 1974



**in this issue**

**New series** Return of the Light Brigade  
Fleet Air Arm history and aircraft  
Detailing HMS *Hood* in two scales



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# AIRFIX magazine FOR PLASTIC MODELLERS

October 1974  
Volume 16 Number 2

Editorial offices  
Bar Hill  
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Editorial Director Darryl Reach  
Editor Bruce Quarrie  
Art Editor Ian Heath

## Cover Picture

This month's cover shows two more of the many Russian, German and Finnish vehicles on display at the Pansarmuseum, Parola, Finland, and was taken by Danish reader Karl Haugsted. The foreground subject is, of course, a T-34/85 in Finnish Continuation War markings and summer camouflage, while that in the background is the earlier T-34/76. Both of these vehicles could easily be modelled from the Airfix kit. Note especially the extra stowage racks at the rear of the '85 which could be constructed from stretched sprue.

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by Terry Gander and Neil Crosby		
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October 1974

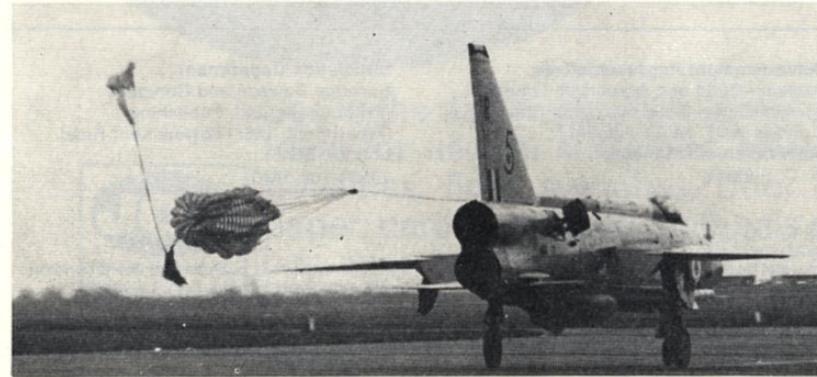
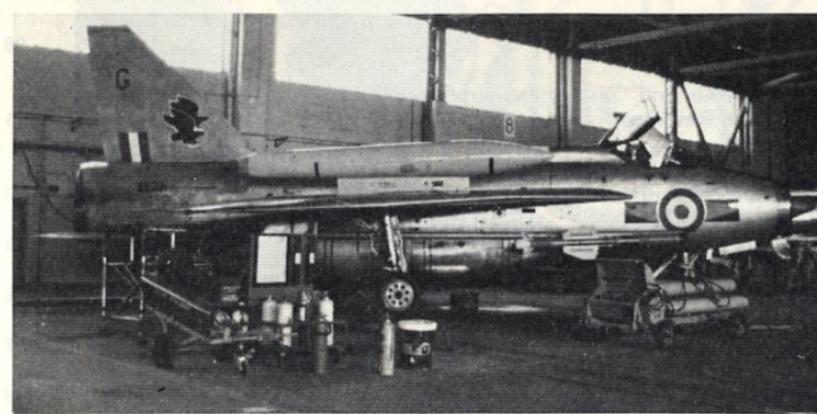
# Terry Gander and Neil Crosby in the air



Open Day at RAF Binbrook



Top right 11 Squadron tail badge. Above 5 Squadron Lightning F6 on approach. Below one of 11 Squadron's F6 Lightnings all ready with overwing tanks for the abortive Cyprus trip. Bottom out goes the brake parachute on another 5 Squadron Lightning.



ON SATURDAY July 20 1974, the Royal Air Force Station at Binbrook, Lincolnshire, was opened to the public. It presented a rare opportunity to visit an operational airfield directly concerned with the defence of Britain. The base is one of several belonging to No 11 Group RAF Strike Command, tasked with the responsibility of investigating and, if necessary, preventing violation of air space within the UK Air Defence Region. The UK ADR forms part of a unified air defence system within NATO.

Binbrook's resident squadrons, Nos 5 and 11, equipped with BAC Lightning Mk 3s and 6s, have to carry out a surprising number of interceptions of 'snooping' aircraft of the Soviet military aviation forces. As a result of this activity, at least two Lightnings are kept on QRA (or Quick Reaction Alert), in order that they can be scrambled at very short notice to escort the unwelcome visitors away from sensitive areas. The Lightning, in spite of its age, with its rocket-like climb and tremendous acceleration, is generally regarded as the best operational fighter for this type of work.

Besides their primary NATO role, the squadrons must be ready to fly out and reinforce overseas bases, and it is perhaps ironic that No 11 was due to go to Cyprus for live weapon training on the following Monday — two days after the invasion by the Turkish armed forces. For obvious reasons the visit was postponed.

Since the show itself was an 'At Home' affair, the static exhibition was principally concerned with the day-to-day work of the base. However, the short flying display included several varied items. The most interesting was by a Shackleton AEW Mk 2 of N 8 Squadron. Twelve of these airborne early warning aircraft, adapted from their former maritime reconnaissance role by the installation of radar as fitted to the Gannet AEW Mk 3, are now used to extend low level radar coverage up to 1,000 miles from the land. The venerable Shackleton has proved invaluable in aiding interceptions of 'hostile' aircraft far out to sea and the RAF hope to replace it with a more modern type in the not too distant future.

A touch of nostalgia was brought to the

AIRFIX magazine

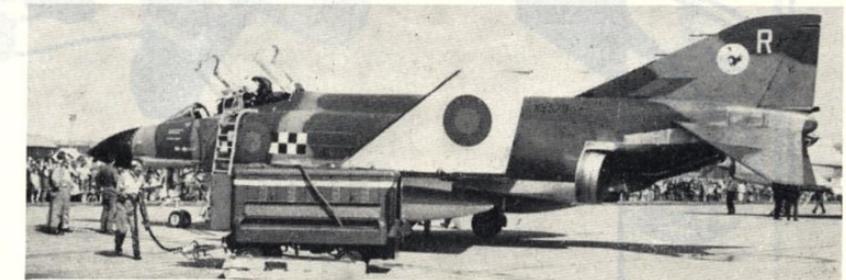
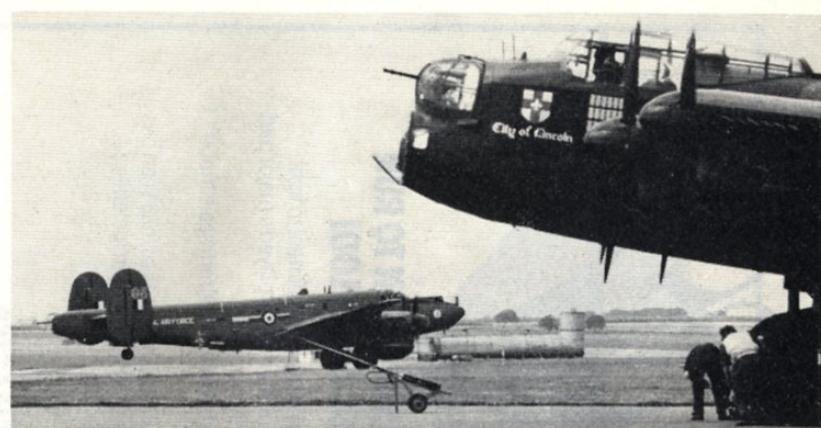


proceedings by the display of the world's last flying Lancaster, PA474, now part of the RAF's Battle of Britain flight at Coltishall. For, as the innumerable local disused airfields testify, it is with Lincolnshire that the operational career of this famous bomber is most associated.

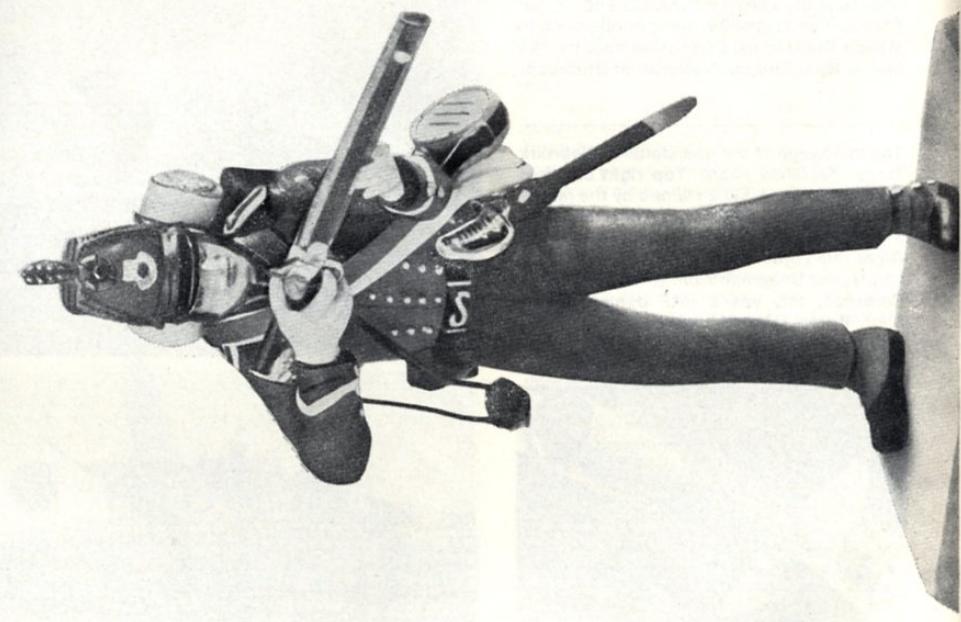
Highlight of the show was undoubtedly the flying of the Red Arrows. Because of the world fuel crisis last winter their pre-season training was severely restricted, but this did not prevent them from giving an outstanding and polished performance.

A pointer to the future was the demonstration of a F-4K Phantom FGA Mk 1 by No 43 Squadron. The FGR Mk 2 versions of these aircraft are currently re-equipping earlier Lightning squadrons, as their own ground attack role is taken over by the Jaguar GR Mk 1.

Footnote — The Lightning Mk 1As and T4s until recently used by the OCU and Target Facility Flights are now being condemned to station fire dumps around the country. We saw at least four such aircraft at Binbrook. □



# NEW AIRFIX



## THE 95TH RIFLEMEN. THE MEN WHO FORCED NAPOLEON TO RUN FROM THE BATTLE OF WATERLOO!

The 95th Riflemen were the only British rifle regiment to fight against Napoleon's army at Waterloo in 1815. And they played a major part in bringing about the downfall of the French troops.

Now the 95th Riflemen is a superb new Airfix 54mm scale model in the collectors series.

This terrific 28 part kit includes alternative pieces so that it can be assembled in either a standing or kneeling position. It even includes a replica, in miniature, of the famous Baker rifle.

## THE BAC STRIKEMASTER.

## FROM BOMB BURSTS OVER GLOUCESTERSHIRE TO FIGHTING REBELS IN THE PERSIAN GULF!

The BAC Strikemaster. The aircraft that leads an amazing double-life. Because it is this plane, with its powerful close support ability, that is used by the Sultan of Oman's Air Force over the Persian Gulf. Its versatility continually being put to the test by spectacular stunts like spins, rolls and bomb bursts!\*

Now Airfix have produced a fully detailed 1/72nd scale model of the Strikemaster.

This terrific kit includes optional parts and markings for either a 'Red Pelican' Jet Provost or BAC Strikemaster.



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# british army uniforms

1660-1900

Coldstream Guards c1703-4 by Bryan Fosten

ON THE MALPLAQUET staircase at Marlborough House in the Mall are wall paintings of Marlborough's campaigns among which is a painting showing the Foot Guards crossing the river during the Battle of Blenheim in 1704. At this time the 2nd Regiment of Guards had two battalions and served Marlborough with great distinction under its Colonel, Charles Churchill, who was of course the Duke's brother.

By this period a British infantry battalion was composed of a Headquarters, and 11 centre or 'hat' companies, together with an elite Grenadier company which had the distinction of forming on the right of the battalion line when they were on parade.

The Headquarters of the battalion usually comprised the Colonel and Lt Colonel, a major, an adjutant, a surgeon and his mate, the drum major and a battalion solicitor or steward. Each company was commanded by a captain with a lieutenant and ensign as his commissioned subordinates. There were two sergeants and two corporals to each company and a company rank and file strength of about 50 men, although inspection reports reveal that on campaign this figure was seldom reached because of sickness and wastage.

Each officer was armed with an 'espon-toon' or half-pike, a sword, and in the case of field officers, a brace of pistols. On campaign some officers carried light fusils. Sergeants were armed with swords and half-pikes and in some cases, especially in the grenadier companies, with halberds. The corporals and the rank and file were armed with muskets, bayonets and brass hilted hangers.

The Marlborough Tapestries and the murals by Laguerre in Marlborough House indicate that officers were rarely dressed uniformly at this period. In general the coats were fine scarlet cloth embellished with gold lace or embroidery. Their black beaver hats were now cocked up on three sides into the familiar 18th Century three-cornered style, the brim trimmed with broad flat or scalloped gold lace and frequently, especially for the field officers, further trimmed with black or white feathers. The officers' hair was cropped close and they wore full bottomed periwigs or perukes which cascaded over their shoulders. Over the coat and the left shoulder a crimson taffeta or silk sash with gold fringing was worn, although in some instances officers are shown with the sash worn around the waist in the earlier 17th Century style. Gorgets were still large. The waistcoat was almost as long as the coat and similarly trimmed with lace, and the costume

was completed by white or coloured breeches and stockings and buckled shoes with high heels and long tongues. Mounted officers wore the thick, heavy, jacked leather boots with large cuffs and buckled on spurs or long buttoned gaiters.

The hats of the sergeants, corporals and rank and file were also cocked in the three-cornered style but were smaller than those worn by the officers. Manufactured of coarse black felt, the hats were trimmed with gold lace in the case of the sergeants and with broad yellow worsted for the corporals and the rank and file. The hats rapidly lost their knap and shape in inclement weather and losses were difficult to replace. At this period the hat was worn square on the head with the front point of the 'cock' directly between the eyes and the cap tilted slightly forward. The men's hair is shown as cropped short in many of the Laguerre scenes but certainly appears shoulder length in others.

The grenadier company wore the special cap of their calling, now distinctly achieving the 'mitre' style, but more pointed than shown in the later mid-18th Century paintings by Morier. The cap was red with a blue stiffened front and blue turned-up flaps at the front and rear, and was trimmed with yellow worsted. On the front of the cap was a device, either painted or embroidered, of the Royal Crown over the white eight pointed Garter Star with the central white roundel decorated with the red cross of St George. The red back had two vertical bands of yellow worsted and both the flaps were further embellished with what appears to be sprays of palm or laurel (this of course was the late Stuart period and before the Hanoverian white horse became the rule).

Sergeants' coats were probably better quality material than those of the rank and file but they all were red, lined (faced) with blue and with brass buttons and white square-ended lace. The coats had a peculiar 'roll-over' blue collar which is clearly shown on several of the Laguerre paintings and the tapestries and especially on the painting of the Foot Guards crossing the river. It is not clear how the sergeants' coats were distinguished but it seems safe to assume that they were trimmed with gold lace, probably around the armhole seams and around the edges of the cuffs. They may have had gold buttons as well. Corporals were probably already wearing the worsted knot on the right shoulder to distinguish their appointments. In 1725 they took halberds into use which made their rank more apparent.

Note that at this time the skirts of the infantry coat were not normally hooked back



A grenadier from the Laguerre paintings showing, inset, the grenadier cap.

to show the blue linings. They were worn full and loose which indicates that the coat was deeply skirted with pleats at the back. Because the coat was worn in this way it is not possible to see the colour of the waist-coats and breeches but it is thought the former were red trimmed with white and the breeches white. The costume was completed by white woollen stockings and heavy buckled shoes with long tongues. (Note that the coat no longer had the extreme profusion of buttons which was the 17th Century fashion.) During the Marlburian campaigns it was found expedient to issue gaiters to protect the legs of the soldiers on the march. These are known to have been brown but the

pattern is not shown in the contemporary pictures.

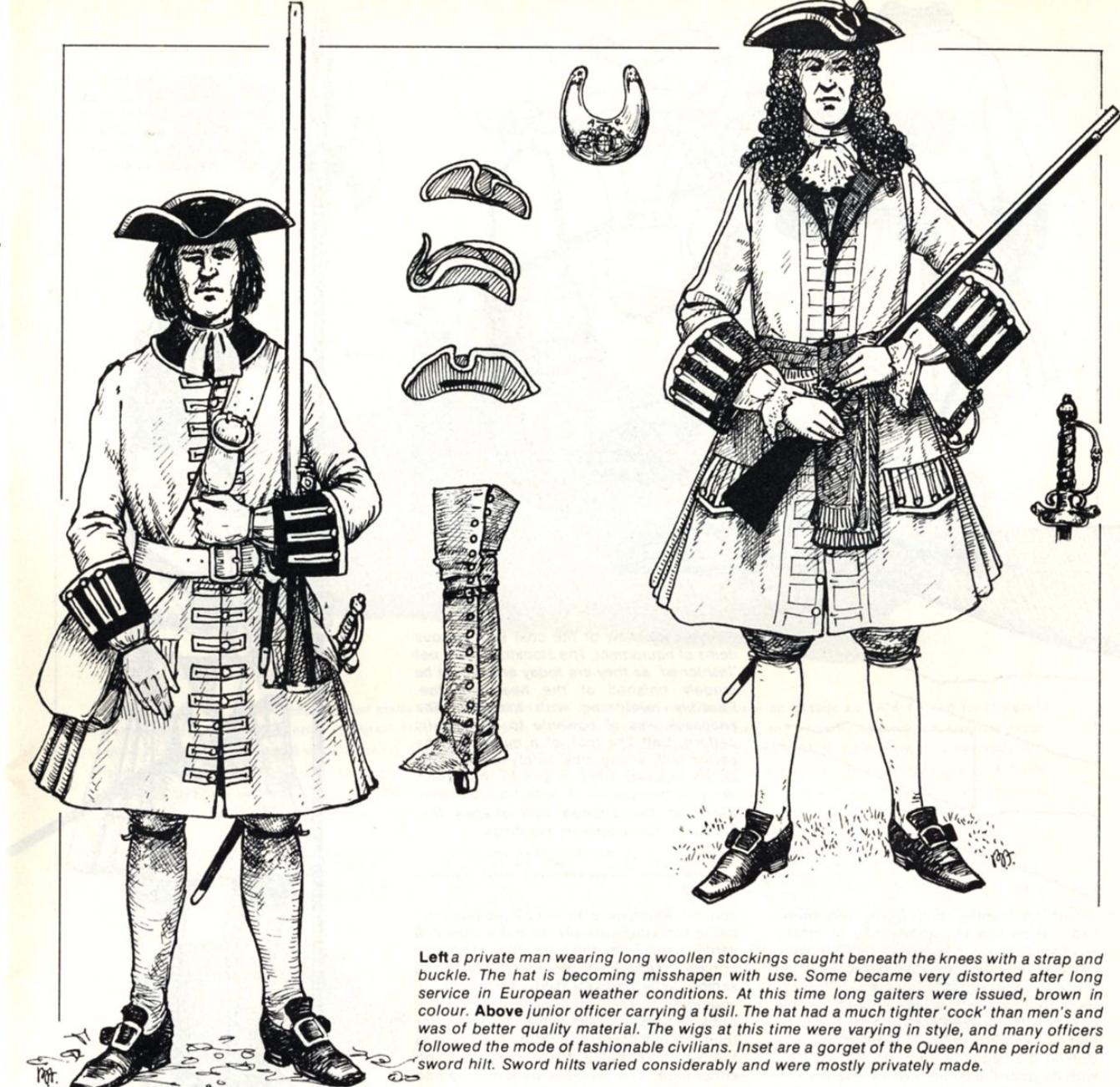
The grenadiers and the centre companies were armed with muskets. At this early period they were not all uniform in appearance. In the early years of the 18th Century there were several odd patterns in circulation, including some of Dutch origin with curious swellings on the butt which make the weapons look incongruous and most un-English. Some regiments were so dissatisfied with this state of affairs that they ordered special weapons of regimental design. It is known, for example, that in 1716 the three Foot Guards Regiments were buy-

ing muskets to their own regimental design. The average length of the barrel at this period was 46 inches and the early pattern had iron mounts. In some regiments bayonets were the prerogative of the grenadiers but it seems that in the Guards all companies carried the weapon.

The cartridge pouch was carried on a broad cow-leather belt over the left shoulder. The pouch itself had a heelballed lid decorated with the 'Garter Star' device. Whether this was a stamped brass plate or merely a painted badge is not known. Around the waist a cowleather belt with an oval open brass buckle with one or two

prongs was worn. This supported the infantry hanger in a frog. The sword had a brass grip and guard and a heelballed scabbard with a brass chape. The bayonet was also carried on this belt.

On the march the infantry carried their personal effects in a cowhide knapsack which was slung over the left shoulder and carried under the right arm. The precise design of these is not known but they were probably not uniform. For the first time cooking pots were now carried on the march and a proportion of the men had watchcloaks. The average weight carried by the soldier was 50 lb.





Sergeant carrying the halberd which was officially taken into use in 1725 but was carried earlier according to pictorial evidence.

Above back view of the coat with various items of equipment. The stockings were not 'fashioned' as they are today and would be crudely finished at the heel and toe. Possibly reinforced with material. The knapsack was of cowhide to no specific pattern. Left The lock of a musket of the period with a 'dog lock' safety catch. Many Dutch muskets were in use in the British Army of this period. A selection is shown depicting the strange butt shapes that appear in contemporary paintings.

With continental roads being very primitive and narrow the armies had to mostly advance over rough open ground. They were usually led by an advance screen of dragoons and pioneers, followed by the pontoon train and its guard flanked by the cavalry with the infantry marching in column behind, on either side of the baggage train. Behind the baggage train the artillery train with its guard, also flanked by infantry columns, with cavalry bringing up the rear. The whole army was screened by cavalry skirmishers.

The march time was beaten by the infantry drummers led by the drum major and the artillery kettle-drummer drawn in a chariot. At this time the drummers' red coats were decorated with blue and gold Royal lace but they were still wearing hats. The fife was not used at this early period. The heavy company colours were carried by the ensigns, young men, often little more than boys, who are said to have experienced great difficulty in wielding the great flags in inclement weather.

Battles were still being fought in a rigid formalised style, the troops advancing in

column, which were then deployed into their battle formation usually no more than 600 yards apart from their enemies. The two armies were formed into divisions with the senior officers present taking pride of place according to their ranks. The British Marlburian infantry were famed and dreaded for their method of platoon firing. The line was formed three ranks deep, grenadiers on either flank. The divisions were divided into platoons known as either the 'first', 'second' or 'third' firing. By a complicated method of timing and control they could sustain an almost continual roll of musketry up and down the line. This system had enormous advantages over the French system which comprised a mass discharge of the muskets of the front rank of an entire company or even battalions. The French usually formed in five ranks and fired one rank at a time, their whole system depending on a complicated method of retiring and advancing while the re-loading occurred. The British system involved the lines being staggered so that the men of each rank could fire unhindered while others were reloading — a continuous rolling volley that passed up and

down the line and never ceased. Another British form of attack by small echeloned groups during a long continuous advance often demoralised the rigid French formations who had no answer to it.

**Further reading:** *The Laguerre murals in Marlborough House, HMSO; The Marlborough Tapestries, by Robert Wade; A History of the Uniforms of the British Army, by C. C. P. Lawson, Volume I; Marlborough as Military Commander, by David Chandler; and British Military Firearms, by Howard Blackmore.*

AIRFIX magazine



## NEW AFRIKA KRIEG!



Here they all are, the combatants that made the names of Rommel and Montgomery famous — as famous as TAMIYA and for the same reasons, accuracy and attention to detail. They are in 1/35th scale and come with full decals and in many cases, with accurate crewmen. Above is the German 8-wheeled heavy armoured car Sd Kfz 232. One of the great vehicles of W.W.II. 1,235 were built between 1937 and 1942 by Büssing-NAG and were used in every theatre of war. It was the basic design of many more later vehicles and was, itself, produced in many versions. Kit is of a Radio Command vehicle and has a tremendous range of alternatives for building the type of your choice as all armoured cars up to 1945 were based on this chassis. Price £2.93.

**8 TON HALF-TRACK Sd Kfz 7.** One of several German semi-tracks of W.W.II. Approx. 500 were built as personnel carriers and 88mm gun tractors. Kit: Motorised with plastic track, optional canopy and crew of 8 figures. Highly detailed. Price £3.90.



**GERMAN Sd Kfz 251/1 HANOMAG.** The famous half-track used in every theatre of W.W.II in a variety of versions so you can scratch-build from this kit — that's what the Germans did! Kit: From Military Miniature series has opening rear doors, 5 combat troops, small arms, accurate interior detail and decals. Price £1.67.



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**GERMAN PzKw II.** This tank was also used in the 'Blitzkrieg' through Europe. Kit: Has 2 building versions, either Ausf F or G, with 1 crewman. Also 4 Afrika Korps soldiers with full equipment — pouches, binocs, small arms, etc. Price £1.18.



**BRITISH MM/12A MATILDA.** Made its name in the Western Desert where it decimated the Fiat-Ansaldo tanks. Its last big battle was El Alamein. Kit: Plastic tracks, Tank Commander, full detail. Price £1.95.



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# Detailing HMS Hood in two scales

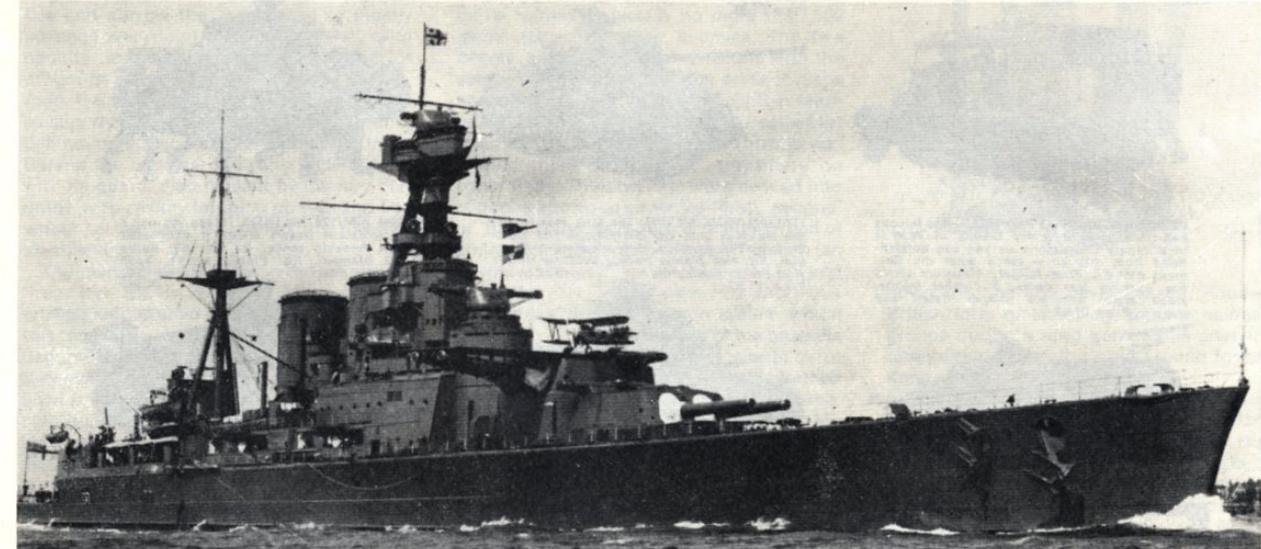
Modifying the Airfix 1:1200 and 1:600 scale kits described by Peter Hodges

THE RECENT appearance of HMS *Hood* in 1:1200 scale (together, of course, with *Bismarck*) in the new Airfix Naval History series was a very welcome addition to the growing numbers of warships available to the small-scale modeller.

Many Airfix 1:600 scale models of the famous British battle-cruiser must have been assembled since it first emerged on the market; but any modeller who has made replicas in both scales cannot have failed to notice the marked difference in her secondary armament between the new and the earlier kit. For the 1:1200 scale model shows her with the 5.5-inch batteries suppressed and her principal anti-aircraft armament 'up-gunned' to seven twin 4-inch HA Mk XIX mountings. This change was, in fact, the only armament modernisation that circumstances finally allowed and it was fortunate that the ubiquitous twin 4-inch was available.

With three HA directors, *Hood* went to war with a better anti-aircraft armament than any other capital ship, save those fortunate enough to be properly modernised. The disposition of her twin 4-inch allowed her to bring four mountings to bear which was twice as many as, for example, *Warspite*. What sort of changeover arrangements were fitted to 'cross-connect' mountings with

*In the mid-1920s — when this photograph was taken — Hood had a flying-off platform (as distinct from a catapult proper) spread between the gunhouse roof and the gun muzzles of 'B' turret on which a Fairey Flycatcher is poised. Notice the big rangefinder projecting from the 15-inch armoured director tower, and a similar tower (but with a shorter base-length rangefinder) above the spotting top. One of the original single 4-inch HA guns can be seen pointing skywards between the starboard whaler and the starboard cutter — both turned out on their radial davits.*



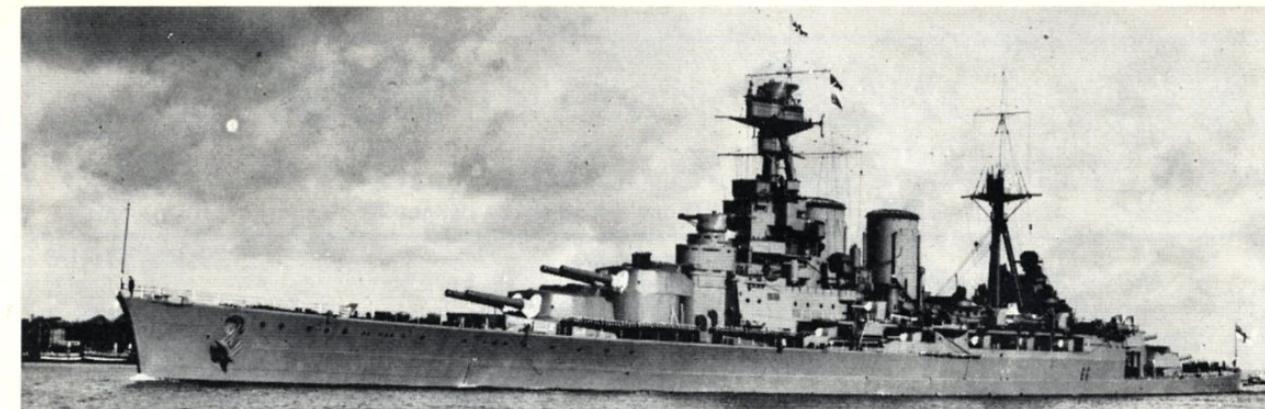
directors is not clear, but it is probable that the forward HACS director on each side normally controlled the forward pair of 4-inch and the after director, the remaining three. In case of action damage, it was usual to arrange for the cross-connecting referred to above, and it is very likely that, say, a forward HACS director could control all three beam HA mountings on its own side and the centre-line after guns; and that, by a changeover switch, the after director could do the same.

This sort of scheme had mixed blessings, for while it provided for flexibility in the control of the weapons, at the same time it increased the complexity of the fire control circuit wiring and often made the checking of the alignment between directors and guns a very time-consuming business.

These late armament changes took place in three main stages. In 1939, the single 4-inch HA were removed and replaced by two twin 4-inch on each side, later protected by splinter screens, while the boat-deck was rebuilt to cover the previously open position of Nos 4 and 6 5.5-inch mountings. The original torpedo director (often mistakenly thought to be an after 15-inch DCT) was taken out and its platform used to support a third 5.5-inch directors abreast the funnels was more or less balanced by the two extra HACS Mk III\* directors on each side of the forward superstructure.

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So much for the broad outline of the changes made to what was, at the time, the biggest warship in the world. If we now look through the instruction sheet of the new



HMS *Hood*, August 1939, in Portsmouth Harbour, flying a rear admiral's flag from the foremast. She still has her full outfit of 5.5s, and mounts a pair of twin 4-inch HA above the midship battery. HACS Mk III\* directors have been added abreast the forward superstructure, while the after HA director is conspicuous abaft the mainmast.

1:1200 scale model, we can see how to improve it with a few simple modifications and at the same time, discuss some more aspects of the ship.

## Panel 1 (parts 1 - 7)

The first thing to do here is to add the anchors to part 2. These can be easily made from scrap plastic in the form of a 'V' with a slightly flattened point, and ought to be of about 2mm wide. Position them forward of their respective hawse holes and angled backwards at about 45 degrees. There will, of course, be three anchors, for at that time the larger warships had the extra sheet anchor on the starboard side. When the hull is painted, they will be 'moulded in' by the paint.

Part 4 — 'B' turret — should have a rocket launcher on the gunhouse roof, immediately forward of the rangefinder, made up from scrap, and patterned on parts 22/23 (or 42/43). I found that one of the turrets in my kit had a slight dimple in its roof and it occurred to me that perhaps a rocket launcher was intended for it but was somehow omitted during kit production.

The rocket launchers were extemporary devices used at sea in the early part of the war to put up a wire barrage as a deterrent to low-flying aircraft. Each rocket carried a payload of wire which was suspended from a parachute from which it trailed. A second parachute remained folded at the lower end of the wire but if an attacking aircraft fouled the cable, the second parachute automatically opened, and the drag of the two 'chutes was sufficient to make the cable lethal. The launchers were 20-barrelled affairs and malfunction could result in a fine old tangle!

Whilst on this section, don't forget to paint the wooden deck of the redundant 5.5-inch broadside gun decks while they are still exposed. A point worth noting about part 5 is that the stout pedestal into which the after 8-barrelled pom-pom platform fits (as shown on panel 7, part 63) is markedly off the centre line. To rectify this, the pedestal should be cut off flush with the deck before part 5 is cemented into position. It can then be shifted over to port, until it is truly on the fore-and-aft line.

October 1974

## Panel 2 (parts 8 - 14)

This shows the assembly of the bridges and foremast and is topped by the aloft 15-inch director tower, set on the spotting top. This hydraulically-powered tower was a special feature of *Hood*, and no other capital ship of First World War design had such a high sited main armament director with its own integral rangefinder. Many of the older battleships did, however, eventually have an HA director in the same position.

The bipod legs of the foremast — part 11 — need slight modification by filing off the bosses near their feet so that they pass through the holes in part 9 and seat on part 10. As moulded, they make the bipod too high against the height of the foremast (part 8), and in any case ought to pass through to the Admiral's bridge below. Lastly in this section, another yard is needed, 18mm wide and cemented at the intersection of parts 11 and 8. The main roof wireless aerial yard provided on part 14 is rather thick and it is not a bad plan to lop this off — and the similar yard on the mainmast — and replace them with stretched sprue.

## Panel 3 (parts 15 - 25)

Parts 15 and 16 represent the Vickers multiple machine-guns, perhaps finally exchanged for 20mm Oerlikons; but in either event the kit parts are very much oversize. To scale, a 20mm gun barrel comes out at about two-thousandths of an inch — the thickness of a fine hair — so it is best to forget all about modelling such sizes. Simply cut the barrel off these two parts and install the remainder as a stub.

Parts 18 and 19 represent a pair of rangefinders that were certainly in position in 1937, but are not provided in the 1:600 scale *Hood* kit. They are just discernible in a 1940 photograph and are therefore best left as they are. They may possibly be pom-pom directors and early versions of this unit had an integral rangefinder, so nothing is lost by retaining them. However, I found that they fouled the adjacent HACS director at their moulded height, and are better if cut down by about 2mm and cemented directly to the

deck. The HACS Mk III\* directors are parts 20 and 21, and were added with the installation of the first group of twin 4-inch mountings. Together with the third HA director (part 59), they were scheduled for fitting with radar Type 285 and its characteristic 'fishbone' aerial, but this was still pending in March 1941 and it is therefore most unlikely that *Hood* ever received hers, for she blew up only two months later. Between these directors and the two original 8-barrelled pom-poms — parts 24 and 25 — are the forward pair of broadside rocket launchers, but panel 3 depicts them facing inboard. They should be turned through 180 degrees before cementing into position (which also applies to parts 52 and 43 on panel 4). Oddly enough, they are correctly shown on panel 7.

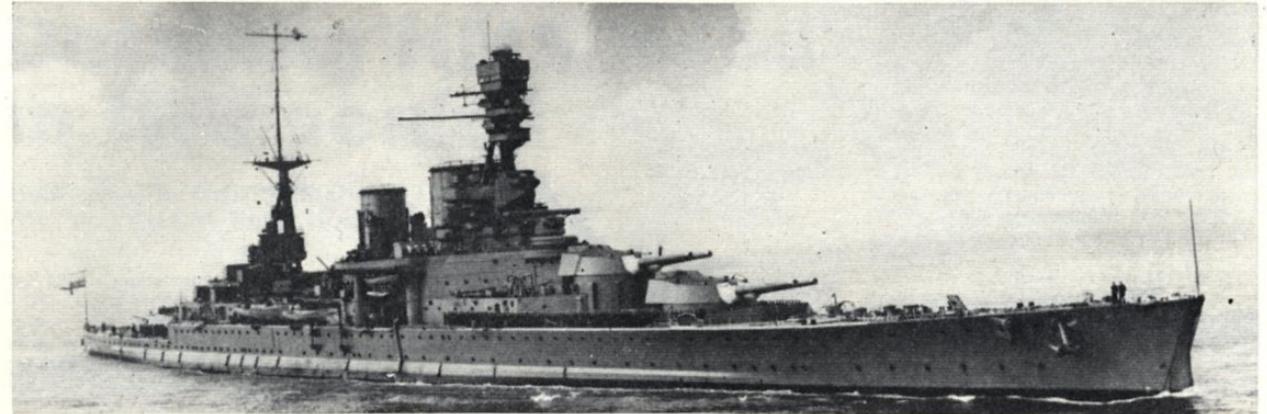
Part 17 represents the rangefinder of the 15-inch armoured director on top of the conning tower. For an 'action' model of the ship — that is with the guns trained on to a firing bearing — don't forget to set both 15-inch rangefinders to the same bearing as the turrets so that they are all 'looking' at the target.

## Panel 4 (parts 26 - 43)

This shows the assembly of the funnel parts and the majority of the ship's boats. A searchlight platform between the funnels themselves was removed and the cutters, previously suspended from 'radial' davits on the ship's side immediately above No 5 5.5-inch guns were suppressed. The other boats stowed inboard in this area were handled by the two 40-foot derricks (parts 34 and 35), two of them — parts 26 and 27 — being 25-foot Fast Motor Boats. Thus we come to the first of the twin 4-inch in parts 36 and 37, but like all their partners of similar calibre, the barrels are too long and should be cut down to a length of 2mm. Parts 42 and 43 are shown 180 degrees out in bearing, as noted earlier.

## Panel 5 (parts 44 - 53)

The rest of the boats, the second pair of HA twins and the mainmast are detailed in this



HMS Renown was a battle cruiser contemporary of Hood, but was fortunate enough to undergo full modernisation and survived the Second World War. This photograph was taken in May 1934, well before her re-build, when she still closely resembled her ill-fated sister-ship Repulse. Like Hood, she had an armoured 15-inch director tower, but had an earlier mark of twin 15-inch mounting; a secondary armament of 4-inch LA guns (in triple mountings); and lacked the aloft power operated director tower. Above her spotting top is an HACS director for the fire control of her early anti-aircraft armament. The vulnerability of her hull by the presence of a multitude of scuttles in the ship's side is most noticeable.

panel, parts 52 and 53 being the whalers. In large warships, it was normal for a cutter to be used as the 'seaboat' — and the original position of the cutters' davits has already been mentioned. Smaller ships — like destroyers — employed the whaler in this capacity, carried in 'scowjack' davits; but in Hood, the whalers would have been carried in radial davits, turned outboard, ready for rapidly launching the boats in an emergency. Their height above the waterline in a big ship kept them clear of the seas which would not have been the case in a destroyer.

Thus, Hood must have used her whalers as 'seaboats' once her ship's side cutters had gone: and to be accurate, if davits are to be modelled, they should be turned out, with the whalers suspended from the falls. This is a bit tricky to do neatly in this scale and so as a reasonable compromise, one can cement the whalers to the deck as shown on panel 5 and add davits made from fusewire turned inboard. The wire will adhere to the ship's side with ordinary cement and is 'sealed in', so to speak, when the hull is painted.

An ensign gaff — cut from the same piece of stretched sprue as was used for the yards — can well be added to the mainmast. It needs to be 5mm long and to be cemented at the intersection of parts 48 and 49 at an angle of 45 degrees. A rather nice touch in the Airfix model are the slots in the angled after superstructure almost immediately

Another battleship only partially modernised before the war was HMS Malaya.



In this scale it is particularly important to paint all the fittings which are to be set on wooden deck areas before they are removed from the sprues; and so far as painting projections on the decks is concerned, it is much the best plan to make no attempt whatever to paint their sides. The breakwaters on the fo'c'sle are a typical example and should be given a very fine grey line once the deck 'teak' colour is thoroughly dry. And, by using a very fine brush and waiting until its minute load of paint was partially dry, I managed to pick out the links of the anchor cables without difficulty. Similarly, very small dots of paint on top of each bollard or fairlead on the deck edges will pick them out quite adequately.

Great care is necessary to ensure a clean line at deck level between the teak deck colour and the grey ship's side. The trick here, is

Continued on page 86



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NAP 6	Light Infantry Officer
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WEL 4	Highland Officer
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KN 8	Knight in Italian armour 1465
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to paint the deck *outwards* with brush strokes across the deck edge; then paint the ship's side *upwards* from the waterline.

Actually, the deck areas present a bit of a problem because some big ships (with wood decks) painted them over during the war so as to lessen the risk of detection from the air. The trouble is that most available photographs are shots at surface level when, naturally, the decks are not visible; and in fact, only from aerial views — or such rare chances as when *Hood* passed beneath the Forth Bridge — would they be seen by the distant observer. I debated what to do about this and finally decided to paint the decks in timber colour for the sake of contrast in the completed model. It goes without saying that if one elects to paint the complete ship grey it makes life very much simpler.

#### The 1:600 scale kit

Using the modified 1:1200 scale model as a guide, a conversion of the earlier Airfix kit becomes reasonably straightforward. The boat deck needs modification by 'plating in' the area over Nos 4 and 6 5.5-inch mountings, and the ports for the forward 5.5s must be similarly treated. The broadside secondary armament directors can be modified and resited as HACS Mk III's; the lugs for the heels of the cutter davits can be removed; and thereafter, the job is really one of modifying the armament and plugging redundant holes in the moulded decks. An extra 8-barrelled pom-pom can be made up from scrap to the pattern of the units supplied as broadside weapons in the kit, and all that are really needed in addition are the seven twin 4-inch. There are plenty of examples of this mounting in other Airfix kits, but in 1:600 scale it is, in any case, not difficult to make from scratch.

The redundant 5.5s and the single 4-inch HA from a modified larger kit are well worth stowing away in the spare parts box. The similarity between this 5.5 and the single shielded 6-inch has already been mentioned, and these guns would provide the main armament for a scratch-built model of one of the older 6-inch cruisers. In the same way, the single 4-inch HA can be saved for, perhaps, a model of a wartime destroyer, where it frequently replaced the after set of torpedo tubes up until about 1942.

Much has been written about the *Bismarck* action and the loss of the great British battlecruiser: and if it was indeed *Hood's* own torpedoes that blew her in half, it was by an odd quirk of fate that *Rodney* actually torpedoed the German warship in the last phase of the episode. The value of fixed torpedo tubes in capital ships was always debatable, and their removal from *Hood* might well have saved her. Certainly, *Rodney* discharged several at the enemy battleship at successively decreasing ranges, and finally hit her with one 'tin fish' at what was tactically point-blank range. Nothing could have saved *Bismarck* then, whether *Rodney's* final attempt with her fixed 24.5-inch underwater torpedo armament had succeeded or not: but if nothing else, it remains on the record book as the only known occasion when one capital ship torpedoed another. □



## news from AIRFIX

### 1 BAC Strikemaster

### 2 British rifleman

### 3 Shooting Star

### 4 Cherokee Arrow

#### 1

THROUGH CO-OPERATION with the British Aircraft Corporation, the Officer Commanding, Sultan of Oman's Air Force, and the Royal Air Force 'Red Pelicans' aerobatic team, Airfix have produced a super-detailed model of the Strikemaster which ranks as one of the most successful ground attack/trainer aircraft in the world.

Included in this 90-part kit are parts and decals for two versions — the Strikemaster Mk 82 in service with the Sultan of Oman's Air Force, and the Jet Provost Mk 5 showing the markings of the 'Red Pelicans'.

Produced in white polystyrene, the kit includes sculptured figures of an instructor and pupil pilot and the cockpit contains a fully-detailed instrument panel.

Because of the high power produced by its Rolls Royce Viper 20 engine, pressurisation, and the aircraft's ability to carry 3,000lb of underwing stores, more than 110 aircraft have been built and fly with the air forces of eight countries.

The large, transparent cockpit canopy has been produced in clear perspex as has the large landing light in the nose. The undercarriage can be modelled either in the operational or closed position, while two long range drop tanks and bombs can be fixed to the underwing pylons on the Strikemaster version. The instruction leaflet includes explicit details of the assembly of



parts for both variants.

The jet intakes and exhaust, tail plane, elevators and fuselage aerials are finely-detailed and painting instructions plus a display stand are included in the kit. Price is 29p.

#### 2

MOULDED IN WHITE polystyrene, this 28-part kit depicting a Rifleman of the 95th Regiment in 1815 is a logical addition to the existing infantry and cavalry subjects in the Airfix 54mm figure range.

When completed the figure stands 2 1/2in high, and special mention must be made of the accuracy of the uniform and accessories achieved in the moulding of this subject.

It can be assembled either in the standing or kneeling position and the delicate relief of the facial expressions and folds in the clothing are just two of the many details which have been perfectly reproduced.

Included in the kit is a plastic sheet from which belts, straps, slings and pack supports can be cut with the aid of a template which is printed on the instruction sheet. It is important that the right arm, the right hand and rifle be assembled as a unit and then cemented to the body, adjusting the angle of the head and left arm at the same time. The cord on the powder horn should be cotton or thread (not included in the kit).

The 95th was the only British Rifle Regiment at Waterloo (although parts of other units were present) and the men were armed with Baker rifles and carried sword bayonets. Green jackets and black equipment gave them a distinctive appearance and when painting the actual figure it is recommended that modellers follow the coloured illustrations on the header card. Price of this kit is 22p.

#### 3

THE LOCKHEED P-80 'Shooting Star' was America's first operational jet fighter. The 52-part Airfix construction kit has several special features which include the fully-detailed cockpit and an undercarriage which can be modelled in the closed or operational position.

The airframe detail, undercarriage mechanism, fuselage and tailplane are all well-defined and modellers will notice that the dive brakes can be cemented in the open or closed position.

The Shooting Star's armament comprised six .50 machine-guns and two or four 1,000 lb bombs on the underwing rack. These have been accurately moulded in the kit, which is produced in grey polystyrene.

The detail of the jet intakes and exhaust, ailerons, tail plane right through to the landing lights make this kit one of the most interesting in the 1:72 scale series.

Originally 5,000 aircraft were ordered for the USAAF, but the arrival of VJ-Day reduced this to 917 P-80As with the improved P-80B phasing in on the production line during 1945. Although too late to see action in the Second World War, the aircraft, now re-designated F-80, became available in quantity at the time of the Korean War and it was the Shooting Star flown by Lieutenant R. F. Brown which scored the first victory in an all-jet combat when it shot down a Mig 15 on November 8 1950.

Although generally outclassed as a fighter the type was found to be extremely effective in the ground attack role, and the Allison 4,600lb engine produced a top speed of 580mph.

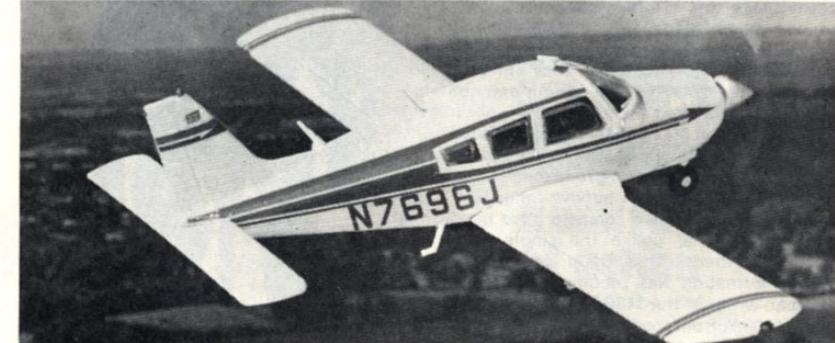
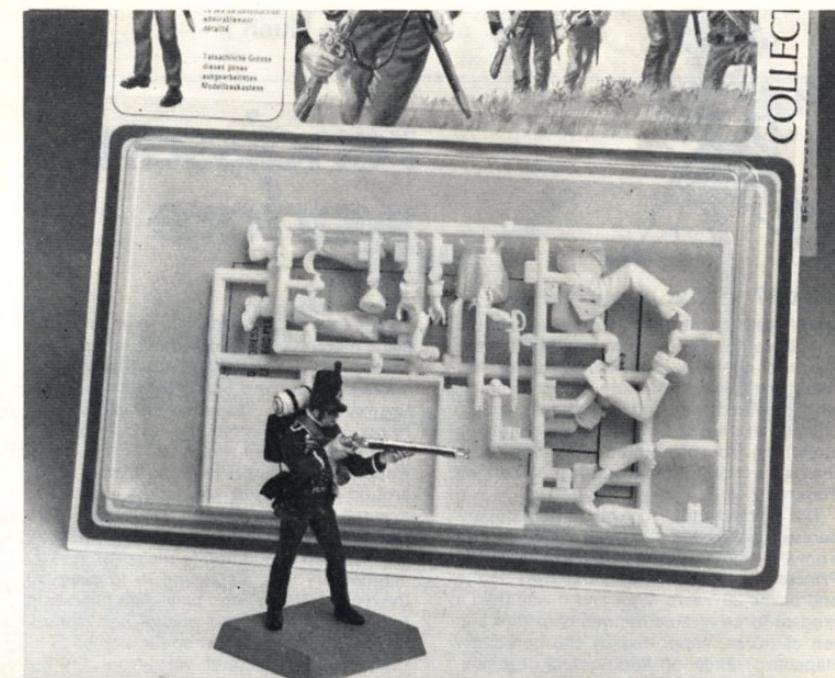
Full painting instructions and transfers are included together with a display stand. Optional markings are supplied for an aircraft of the 36th Fighter Bomber Squadron, 8th Fighter Bomber Wing, based in Korea in 1951, and an aircraft of the 16th Fighter Interceptor Squadron, 51st Fighter Interceptor Wing based at Suwon also in Korea in 1950. Price of this colourful model is 29p.

#### 4

THE PIPER Cherokee Arrow II, a four-seat touring aeroplane, powered by a 200hp Avco Lycoming 10-360-CK engine, is the subject of the latest Airfix kit in 1:72 scale.

A 41-part model, produced in white polystyrene, it contains a sculptured figure of a commercial airline pilot. The completed model, which has a wingspan of 5 1/4in and an overall length of 4 1/4in, includes all the intricate detail which modellers nowadays expect to find in an Airfix kit. The cockpit canopy and passenger windows are produced in clear polystyrene and the aircraft's communications antennae, tailplane and undercarriage have been meticulously moulded.

The Arrow was first introduced in 1967 and the modified Arrow II made its first appearance in 1971. Popular as a light touring or business aircraft, the Arrow II has a spacious cabin and its 200hp engine gives a maximum speed of 175mph with a range of 780 miles, making it one of the world's most successful four-seater aeroplanes. Price of the kit is 22p.





George Gush

## renaissance warfare

### Part 17 — the Imperialists

'IMPERIALIST' IN the 16th Century was not yet a political expletive, but referred to the forces of the only European Emperor, the Hapsburg ruler of the Holy Roman Empire, who presided more or less shakily over a conglomeration of semi-independent states stretching from the Rhine to Poland, from the Danish border to the edge of the Turkish Empire.

The elected Emperor was largely dependent on the troops and cash he could beg from the Imperial Diet or borrow from the Princes; there was no standing army till the end of the 30 Years' War, and it was then a modest force of nine regiments of foot and ten of horse, supported by the hereditary Hapsburg lands of Austria and Hungary. Hence the fact that the Lansknechts and Reiters spent most of their time and gained their chief fame, in foreign service.

Chief external enemies for the Imperialists were the Turks and the French, but they were also occupied against internal Protestant opposition, both in the 16th Century and in the vast and horrifying conflict of the 30 Years' War (1618-48) which I have taken as the close of our period.

The mass of a 16th Century Imperial army would be of Lansknechts with pikes and firearms (see *Airfix Magazine*, January 1974), but under Charles V (1519-58) Spanish troops would also be available, and they were in fact lent as late as the 30 Years' War, while Imperialist infantry normally followed Spanish tactics, with very large pike-squares surrounded with shot.

### Reiters

'Reiter' means simply 'rider', or cavalry, but in the 16th Century, when German mercenary cavalry were used in great numbers, came especially to signify a mercenary mounted pistolier.

At the outset of our period, the German cavalry, like that of other nations, centred on the man-at-arms with full armour and lance; however, they seem to have been generally inferior to, say, their French counterparts, lacking horse-armour and not being well-protected themselves.

The Emperor Maximilian seems to have founded French style 'Bands d'Ordonnance' in an attempt to improve on this, but apparently they did not survive long. German men-at-arms also seem to have used deep formations, unlike the single rank used elsewhere. This deep column or wedge formation was recommended by a German writer of the 1480s (number of files in each rank, from the front): 7, 9, 11, 13, 15, 17, 19 (with banner), 21; then 20 ranks of 45.

The first German cavalry met in large-scale mercenary service appear around the 1540s, and may represent the lighter 'archer' types who would have supported the men-at-arms. These 'reiters' as hired by Henry VIII were armoured cavalry on unarmoured horses, with as their main weapon a boar-spear (a broad-bladed spear around eight or nine feet long, usually with a small cross-bar below the blade). The wheel-lock pistol, a German invention, was soon carried in addition to the spear, and by mid-century was displacing it, to produce the typical 'Reiter' who played an important role in warfare to the end of our period, serving in almost all European armies.

Their armour could vary from (in the mid-16th Century) mail shirt or cape, through corselet, often with mail sleeves, to 3/4 armour like that illustrated, with helmets from simple 'iron hat' to closed types (open burgonets or morions the most usual). A Reiter would carry up to three large 'faust-hohe' type pistols, two in holsters at the saddle bow, the third sometime thrust perilously into his right boot. Their armour was often blackened (a common anti-rust measure) giving rise to the name 'Schwarz Reiter'. The French, either from their fighting qualities or behaviour off the field, called them 'Diables Noirs'.

Reiters were organised in rather large squadrons of, usually, 300 to 350 men, and in battle formed in close order blocks of ten

*German 3/4 armour 'black and white' c1550. Reiter type — gives an idea of appearance of later Reiters, who would have worn similar armour with morion, Burgonet or other open helmet (Tower of London — Crown Copyright).*



to 20 ranks each. As with infantry 'shot', this deep order was primarily to give the rear men time to reload; each rank would ride up to close range of the enemy, fire, and file off to flank and rear to reload, until sufficient damage had been done to allow a ponderous charge to contact at the trot, using thrusting sword and clubbed pistols. They were rather vulnerable to lancers who charged home, partly because a rider with a large and not very gas-tight pistol could not fire straight ahead without injuring, or at least seriously annoying, his horse, so that the rank engaged usually turned sideways-on to fire, thus getting hit in the flank by the lancers.

Accounts of their fighting prowess vary, but in the French Wars of Religion their efficiency was reported to be such that 'a man could see nothing but fire and steel', and heavy losses in some engagements argue for determination.

As well as pistoliers, Germany in this period produced smaller numbers of mounted arquebusiers, and the Turkish frontier was a useful source of irregular troops. The non-Turkish part of Hungary produced militia, and from 1548 'Hussars' (meaning the 'twentieth' man, one from every 20 having to serve) were found in the Austrian forces, while in the 1530s Austria began to settle Serb and Croat refugees along her Turkish border in return for their service as 'Grenzers' or frontier-troops. Infantry and cavalry from these sources would serve against the Turks but the cavalry seem to have first made an impact in Europe in the 30 Years' War, the infantry not till the 18th Century. In the 16th Century Serbian hussars carried a light Turkish lance, while Hungarians included horse archers but seem to have been primarily armed with the sword, both sabre and the long straight armour-piercing variety.

### Imperialist Armies of the 30 Years' War

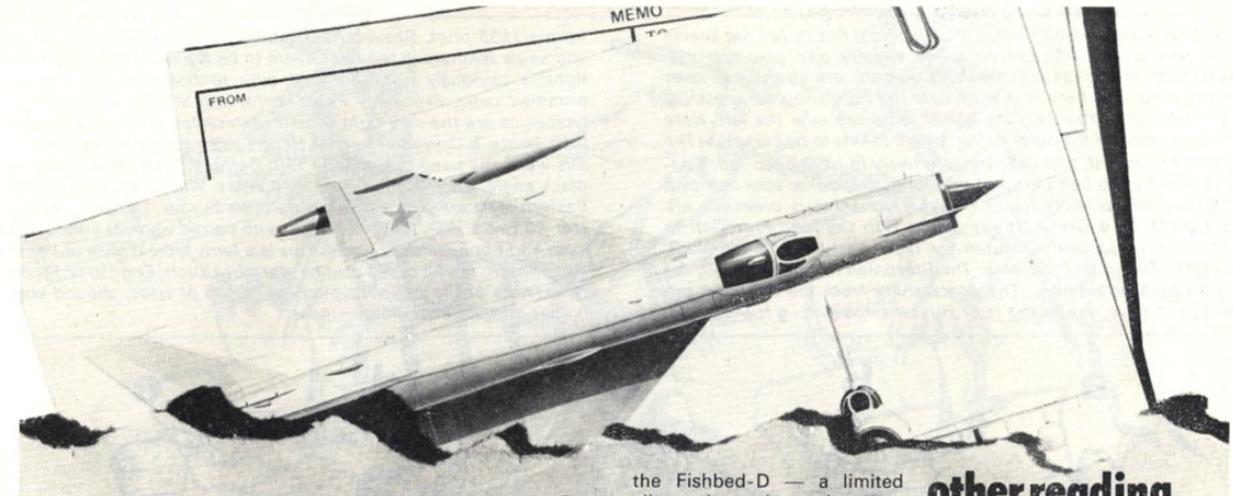
Typically, the Emperor found himself almost without an army at the outset, and had to borrow 25,000 mercenaries under Count Tilly from Bavaria and the Catholic League; to these and their successors were added in 1625 the first 'private army' raised under contract by the extraordinary and enigmatic Czech, Wallenstein, who earned wealth, a dukedom and finally assassination from his career as private-enterprise general and military entrepreneur.

Troop types and organisation at this period were fairly standardised, though Wallenstein's armies were better-dressed and possibly more uniformed (being supplied with clothing from Wallenstein's own workshops) than those of Tilly (a believer in 'a ragged soldier and a bright musket').

Some of Wallenstein's regiments at least were identified by coat colour, but it was still necessary to wear a red sash or a scrap of red cloth since there was certainly no army uniform.

Infantry would be pikemen in corselet and perhaps tassels, or musketeers with at the most a helmet and buff coat for protection.

**Continued on page 90**



## CLASSIFIED INFORMATION

### low-cost gun and missile platform

The MiG-21, currently the backbone of the Eastern Bloc's interceptor strength, evolved from a high-performance defence interceptor specification issued in the mid-fifties.

Designated "Fishbed" by NATO, the MiG-21 follows the design philosophy of the sturdy MiG-15. A light aircraft with a relatively small fuel load, it is basically a gun and missile platform which relies on Mach 2 performance, radar and scramble techniques for its effectiveness. Two pre-prototypes were built, one with sharply swept

wings — mistaken for a different type by NATO observers and designated "Faceplate" — and one with a delta configuration. Both commenced flight trials in 1955.

The first production variant, Fishbed-A, entered squadron service in 1959 and was soon followed by the mass-production Fishbed-C. A purely dayfighter, the Fishbed-C has been widely exported and serves in many Eastern European and Middle Eastern air forces. The type played a prominent part in the 1973 Yom Kippur war. Armament is one 30mm cannon and two K-13 "Atoll" infra-red air-to-air missiles (or two 16 x 55mm rocket pods). Provision is made for two Rocket-Assisted Take-Off units.

A curious export customer for the MiG-21 is India, where



the Fishbed-D — a limited all-weather variant — is manufactured under licence by the Hindustan Aeronautics company. In the Indian Air Force it serves alongside Hawker Siddeley Gnats and Hawker Hunters! A tight security clamp still surrounds the aircraft.

### 125,000 dollar bounty

Naturally, much of the detail about Soviet military aircraft types remains obscure and — just as the U.S.S.R. wanted to get a Mirage — the Western powers itched to study a MiG-21. A bounty of 125,000 dollars was finally collected by an Iraqi major who defected to Israel with his aircraft in 1966. A flight of Algerian pilots is reported to have landed in Israel the following year. Anyway, it is an open secret that at least two MiG-21s have found their way to the United States. The latest-known MiG-21 variant is the Fishbed-J, beefed-up to carry extra fuel and avionics. This version has low-altitude supersonic capability. At least 5,000 MiG-21s have been built, although the true number is probably nearer 10,000. It is considered a good performer at high altitude — and a string of international performance records substantiate the claim.

Western criticism of the type centres around its limited armament-carrying ability and its small radius of action. But — at the same time — it must be remembered that a MiG-21 costs around half as much as a Dassault Mirage.

### other reading for enthusiasts

"Profile No. 238" by John F. Brindley. Profile Publications.

Revell's 1/32nd scale MiG-21 stands over 16" long, with a wing-span of over 8". The detailed Tumansky RD-11 Turbojet engine and afterburner is removable, and the lifelike pilot figure sits amongst a wealth of big cockpit detail. Two "Atoll" missiles are under-wing-mounted. This model can be made up as a MiG-21PF ("Fishbed-D") or a "Fishbed-E" (similar to the -C except for broad-chord vertical tail surfaces). Four-colour decals are included for the Russian and North Vietnamese air forces. **At your stockist NOW! It's the latest addition to the Revell range.**

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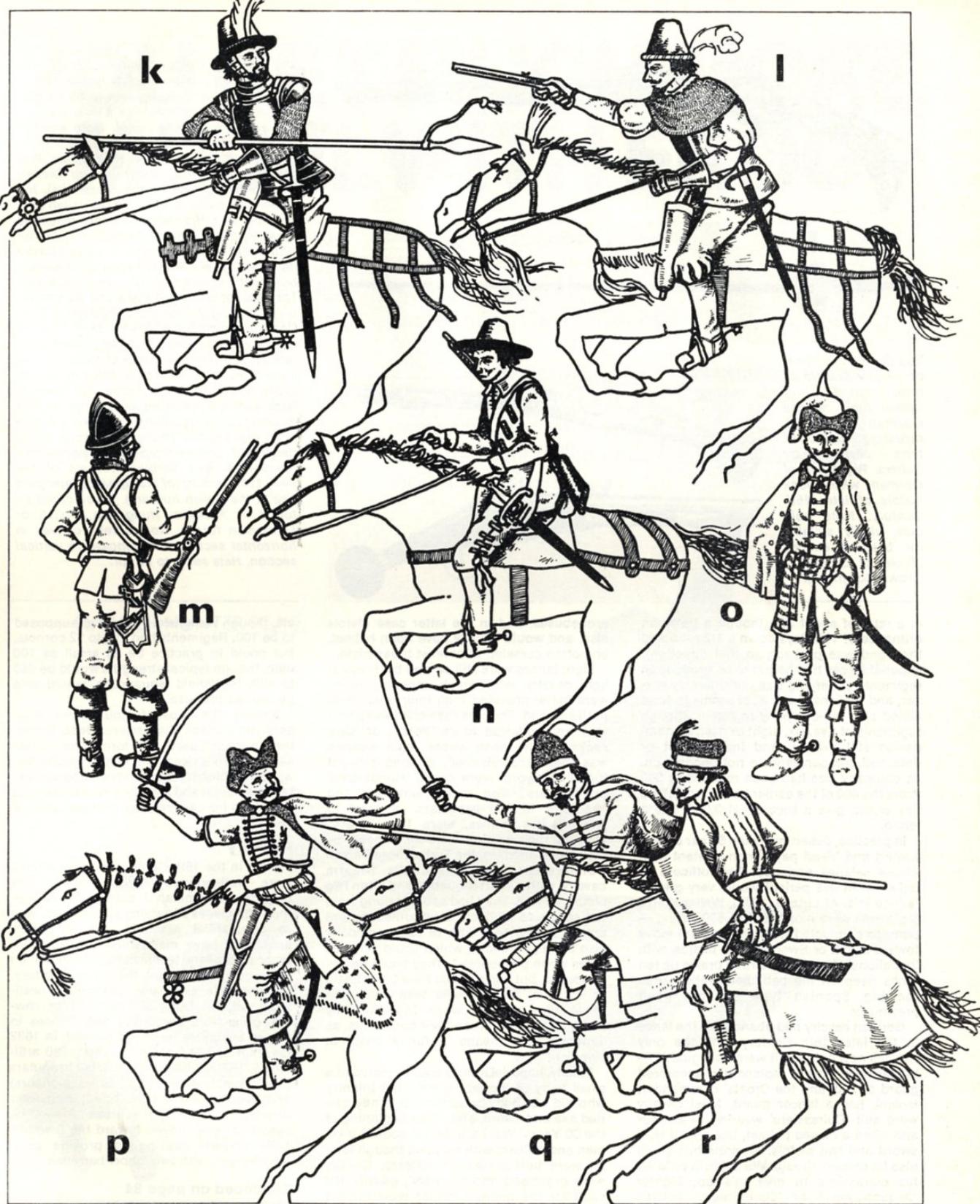
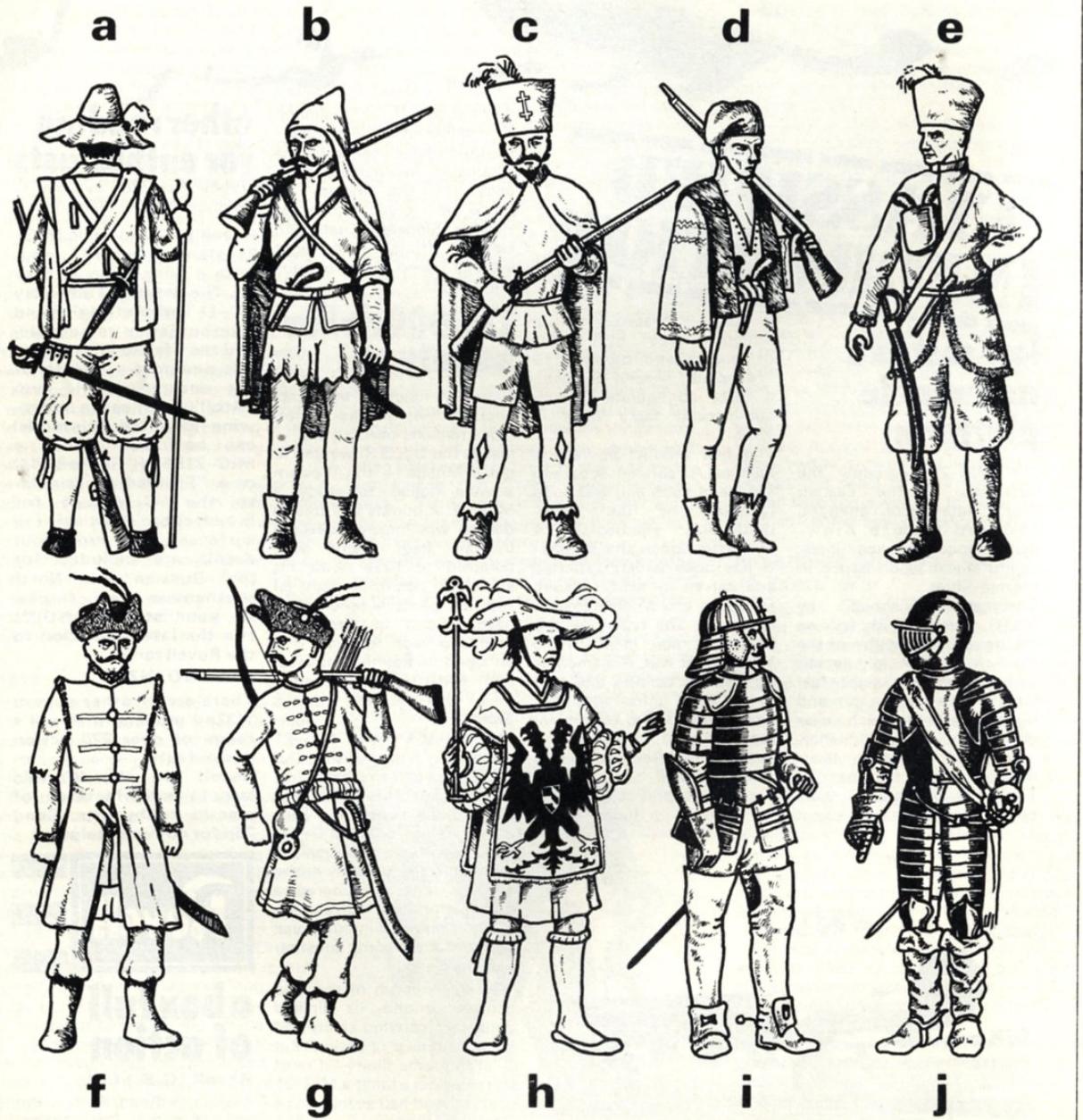


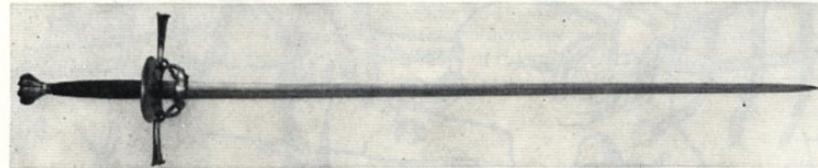
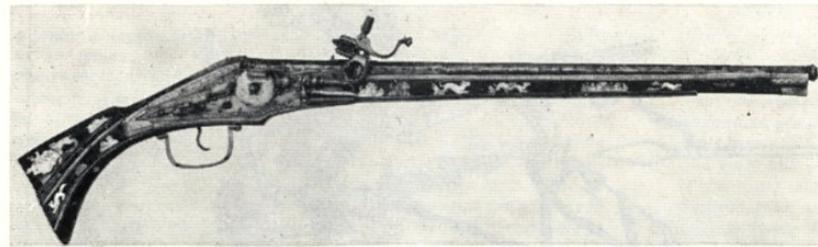
### abox full of action

**Revell (G.B.) Ltd., Cranborne Road, Potters Bar, Herts. Tel: Potters Bar 58261.**

**a** Imperial musketeer, 30 Years' War. Conical floppy felt hat seems to be typical and is seen on some cavalry and pikemen too. Musketeers, as well as pikemen and officers, are sometimes seen wearing a sash, as here. It is worn over the right shoulder, possibly so as to avoid obstructing the bandolier, worn over the left. Note hanging sleeves of the outer jacket, which seems to be common. The rag around the hat, and the sash, are likely to have been red. Dagger is attached to belt rear, not bandolier. Bandolier also carries a bullet bag and powder flask. The very voluminous breeches are also typical. **b - e** Grenz troops of the 17th Century. From left to right, their areas are indicated by their costumes — Karstadt, Warasdin, Zengg and Slavonia. The Slavonian is a cavalryman, the others could be infantry. The coats slung from the shoulder are typical and gave rise to the later Hussar pelisse. **f - g** Hungarians,

from a 1636 print. Shaven heads and chins with big moustaches and eagle feathers in the caps seem to be typical. The chap on the right is obviously not fully won over to firearms yet! The fur-brimmed caps, like many Poles wore, and striped sash are also typical, as are the very tight trousers which bulge out slightly over their boots. **h** German Imperial Herald (after Holbein). Heralds like this were still used in the early 16th Century. Note double-headed black eagle, also seen on flags. **i** 30 Years' War cuirassier in rather Eastern-style armour, similar to a Polish hussar. **j** Imperial cuirassier, 30 Years' War. Wears a helmet with barred visor,  $\frac{3}{4}$  armour, red sash and floppy leather boots. This is a fairly typical style of cuirassier armour, which could also be worn by Dutch, English or French cuirassiers of the period. Note peak at top of visor, shaped knee-pieces and unusual elbow pieces.





**Top** German petronel or cavalry firearm of later 16th Century (wheel lock). **Above** German Estoc or thrusting sword of type carried by Reiters. **Right** pair of German wheel lock pistols of later 16th Century. Note ball-butt, highly suitable for bashing enemy! (Tower of London — Crown Copyright).

in a ratio of about 2:3 (though a Bavarian ordinance of 1634 lays down a 1:2 ratio and the trend was probably in that direction). Imperial forces had begun to be grouped in regiments of varying size considerably earlier, and Wallenstein at least seems to have aimed at a ten-company regiment, though regiments of five, six, eight or even 20 companies still existed, and independent or detached companies were not uncommon. As company size had been reduced to 300 (from the 400 of the earlier Lansknechts), so this would give a theoretical 3,000, like a tercio.

In practice, desertion (often 50 per cent in winter) and 'dead pays' (non-existent men whose salaries enriched their officers — universal in this period) would very greatly reduce this. At Lutzen (1632), Wallenstein's regiments were mostly 500 to 800 strong — perhaps connected with his apparent move toward Dutch or Swedish type tactics, with 'battalions' about 1,000 strong drawn up ten ranks deep on the battlefield, rather than the big Spanish type squares used previously.

German cavalry had abandoned the lance in the later 16th Century, and the only heavies now carrying it were bodyguards — Wallenstein had a splendidly accoutred guard of 200, and the Croats' commander, Isolani, had a lancer guard. Most cavalry were still 'Cuirassiers' wearing 3/4 armour and often a closed helmet, but armed with sword and two pistols. An arquebus could also be carried, though Wallenstein ordered his cuirassiers to give this up. Lighter 'Arquebusiers' or 'Carabiniers' carried

arquebuses, and in the latter case pistols also, and would usually have open helmet, and often corselet, or at least breastplate.

Light lances were still carried by irregular light cavalry, with which Imperial armies were better-provided than their opponents in this period. Those whose chief weapon it was were referred to as 'Poles', or 'Cosacks', while those whose main weapon was the 'Panzerstecher', or long straight thrusting sword, were called 'Hungarians' or 'Hussars'. The most numerous and important of the irregulars, at least in Wallenstein's armies, were the 'Croats'. Though their tactics were influenced by their usual enemies, the Turks, these Balkan frontiersmen were essentially firearm cavalry, with a short arquebus and often two pistols as well. They had sabres (slung from the saddle to facilitate dismounted action) and a quarter to a fifth of each company also had light lances, which could serve as pikes when dismounted. They could be unarmoured, but some would have breastplate or corselet, and helmets with peak and cheek-flaps could be worn. They evidently made an impression on their opponents, as 'krabater' still means 'a funny chap' in Swedish!

Finally, Imperial armies usually included a small body of dragoons, mounted infantry who did not fight on horseback. They carried axe and sword, and at the beginning of the 30 Years' War included armoured pike-men and officers with halberd, though later all were buff-coated musketeers. Cavalry were organised into 'Cornets', usually 100 each for the heavies, 60 for arquebusiers

**k-l** mid-16th Century Reiters. Note horse trappings, square-toed boots typical of this period, and hats which seem to be normal with early Reiters. **k** carries a boar spear, **l** has a mail cape and pistol. Note knotted horse tail. Note also metal gauntlets worn on left (reins) hands only. **m** 30 Years' War carabinier. He wears morion and breastplate only (held on by the crossbelts). His wheel lock carbine is carried (as usual) on a shoulder belt. His baggy breeches resemble those worn by infantry. Note leather holder with bullet bag, wheel lock key and powder flask. **n** 30 Years' War dragoon in sleeveless buff coat and infantry shoes and stockings. The musket was normally slung as shown. **o-p** Croat light cavalry of the 30 Years' War. Caps are trimmed with wolf skin. Clothes are varying colours, often reds. The elaborate striped waist sashes and other trim included much gold thread. When mounted, sabre was slung from horse, not rider. A large saddle cloth could replace the leopard or other pelt. Hungarians often wore fleece over the saddle. Bridles etc were richly decorated, and red cloaks are sometimes mentioned. **q-r** Serbian hussars of the early 16th Century (of the type who later gave rise to the Polish hussars). These could be found in Austrian, Hungarian, Polish or Lithuanian forces. Note shield, convex in horizontal section and concave in vertical section. Hats seem to be fur.

etc, though Wallenstein's were all supposed to be 100. Regiments had five to 12 cornets, but could in practice be as small as 100 men, though typical strengths would be 250 to 500. Battlefield 'squadrons' would also be around this size.

Among the most famous were Papenheim's Black Cuirassiers. Deep formations were still used; Tilly formed his cuirassiers ten ranks deep, and lighter cavalry six, while Wallenstein, again more 'progressive', favoured eight and six ranks respectively (at Lutzen all his cavalry seem to have been six deep).

#### Artillery

Even in the 16th Century Imperial armies were well-provided with artillery, the Emperor Maximilian I collecting no less than 105 pieces of varying size, and, as well as substantial arsenals, the Emperors appear to have maintained a permanent body of artillery technicians, organised on trade-guild lines. In the 17th Century, Wallenstein's army was particularly well-equipped, the Duke of Freidland 'borrowing' guns from the Dukes and Princes in whose territories he found himself. In 1632 his train had at least 44 cannon, 280 artillers, 151 'Haiduken' (Hungarian irregulars possibly acting as guard, or as pioneers) and about 1,800 horses, hired, with their drivers, from civilian sources. Again, he seems to have moved toward the Swedish pattern, endeavouring to provide each infantry unit with two 'short-barrelled' light

**Continued on page 94**

# YOU GET MUCH MORE MODEL WITH FROG

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"...the more we worked on the kit, the more we were impressed with it." (Aviation News)

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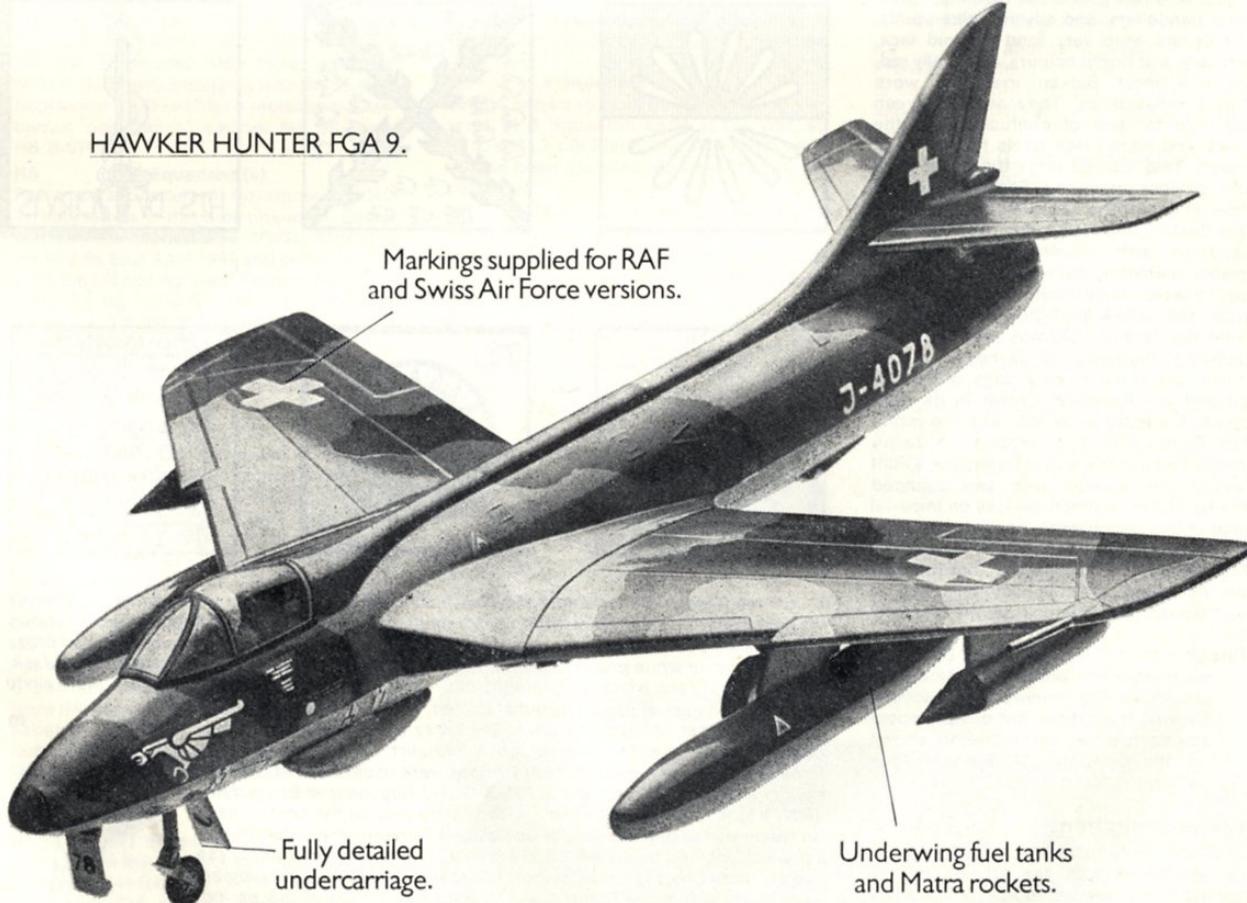
(International Plastic Modellers Society)

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WESTWOOD, MARGATE, KENT.

#### HAWKER HUNTER FGA 9.



Continued from page 92

guns (in his case six-pounders).

### Wargames armies

For Imperialist wargames forces of the 30 Years' War period, fair historical proportions would be — up to 75 per cent infantry, of whom 3% to 2% would be musketeers; up to 33% per cent cavalry, of whom over half should be cuirassiers, about ten per cent Croats, not over five per cent dragoons. As the dress of Imperial infantry was that virtually 'standard' by this time, any English Civil War figures of suitable type can be used. The only difficulty might be Croats and the like, but Miniature Figurines' Renaissance Range Poles might provide a basis.

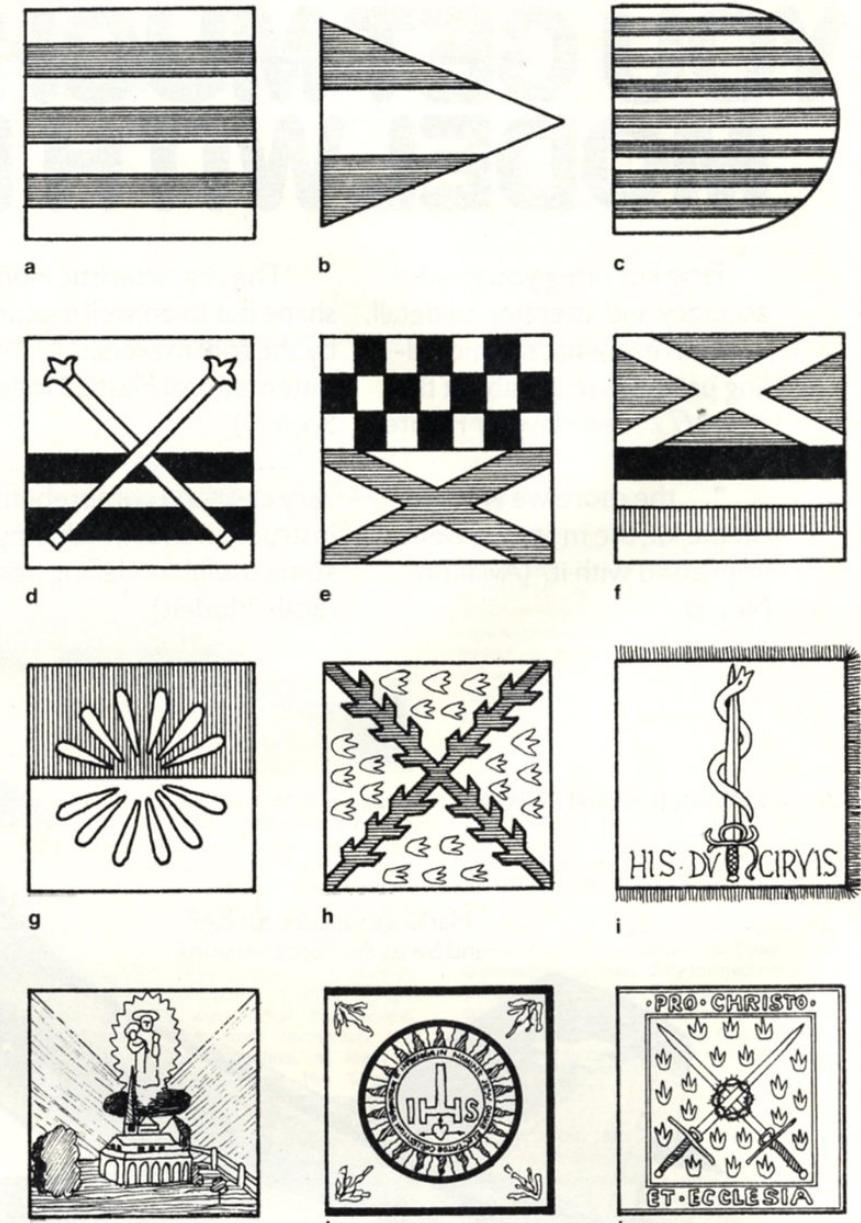
### Flags and uniforms

As stated, some Imperial units of the 30 Years' War had coats of a regimental colour; this might correspond with flag colours — in Wallenstein's army, Berchtold von Waldstein's Regiment had green flags, Max von Waldstein's yellow. Wallenstein's pages wore scarlet and light blue livery, so these colours might perhaps also appear on his lancer-bodyguard, and on his foot-lifeguard of 600, who had gold-laced clothing, silver-laced bandoliers, and silvered pike-points. The Croats were very fond of gold lace, jewellery, and bright colours, especially red, and like most Balkan irregulars wore striped waistsashes. They avoided green and blue for fear of confusion with the Turks, and wore black boots for the same reason. They carried large triangular flags with devices including Fortuna and the Imperial Eagle. The Lansknechts, and some 17th Century Imperialists too, were given to standards with geometrical patterns — checks, diamonds etc — in bright colours. The Imperial Eagle could appear on both white and yellow backgrounds, and on a white standard of 1620 was seen crowned, depriving Frederick of Bohemia of his crown. On some cavalry flags of 1631 it grasped the Pontifical Crown in its right talons, a sceptre in its left, with the motto 'Pro Ecclesia et Pro Imperio' (a heavy cavalry flag like this would be square, a light cavalry one usually with two rounded points). Other common devices on Imperial flags of this period were the monograms of the Emperors Ferdinand II and III, and the Virgin Mary. It would appear that the custom of having a white Colonel's flag in Austrian regiments dated from the 30 Years' War.

**Note:** the 'shoots' on the Cross of Burgundy were normally placed alternately, as shown on the Imperial flags accompanying this article, not directly opposite each other, as incorrectly shown on the drawings of Spanish flags earlier.

### Acknowledgment

I would like to thank Mrs Anita Daniels for her assistance with the articles on the Spanish Army, and apologise for the omission of this acknowledgment from the last issue. □



a - c three flags in the red and white Hapsburg colours. a and c are infantry flags of Charles V's time, b is from an artillery wagon of Maximilian I's. d at Pavia, 1525. Another version shows three black (?) stripes on lower part of flag. e also at Pavia. Black and white checks, red cross of Burgundy on white ground. f Pavia. Yellow cross on red; stripes from top to bottom black, yellow, blue (?) and white (?). g infantry of Charles V's reign. Top yellow on blue, bottom white on yellow. h Imperial flag captured at Lutzen, 1632. Red cross raguly of Burgundy, other colours unknown. The cross of Burgundy was probably the most common symbol on Imperialist flags. i standard of Imperial cuirassier regiment, 1631 (fringes were usual on 17th Century cavalry standards). j standard of Tilly's Guard Regiment at Breitenfeld, 1631. k standard from Tilly's army. The motto around the centre reads 'In Nomine Jesu omne Electatur Coelestium Terrestrium et Infernum'. l Imperial infantry flag, early 30 Years' War. The background under the design would be the usual elaborate pattern brocade — presumably in only one colour. m 'Fortuna' as she appears on flags of this period, normally sailing over the sea with the aid of this banner-like sail.

# squadron codes

and colours  
1939-1956



By Michael J. F. Bowyer and John D. R. Rawlings

**HR** 385th Bomb Group, USAAF (c)  
Letters allocated to 551st Bomb Squadron, but never applied to its aircraft.

**HR** North East Fighter Sector Flight (c)  
Allocation confirmed, details of use unknown.

**HS** 109 Squadron (c)  
Formed from the WIDU (which had Ansons and Wellingtons; Anson HS:G-R9812 may have belonged to this unit). On December 10 1940 the unit became 109 Squadron and equipped with Wellington 1Cs, eg HS:H-T2968, and soon received Beaufighter IIs, eg R2281, aircraft wearing HS from formation until disbandment. Beaufighter IIFs also came into use in June 1941, eg R2338. Beaufighter VIFs used from June 1942 until summer 1944, eg X8169, HS:P-ND221 (an aircraft fitted with a thimble nose and AIMk VIII and credited with a Ju 88 and a probable He 177 on the night of May 14/15 1944). Mosquito XIs came into use July 1943, eg HS:A-HK180, replaced by Mk XXXs in June 1944, eg HS:S-MM751/G. Disbanded August 31 1945.

**HU** Station Flight, East Kirkby (c)  
Allocation confirmed, details of use unknown.

**HV** 8 Squadron (c)  
Letters known to have been carried by Vincents of 8 Squadron early in the war, eg HV:L-K4712, but Blenheims at the time seem to have been uncoded. Readers' comments welcomed.

**HV** 56th Fighter Group, USAAF (c)  
Letters worn by the 61st Fighter Squadron and successively worn on various versions of the P-47 between February 1943 and September 1945.

**HV** Allocation unknown  
Lancaster LM517 was recorded at the RAE coded HV:C, the significance of which is not known. At the 1945 display of captured enemy aircraft at Farnborough a He 111 was shown wearing HV coding, again of an unknown formation but presumably Allied.

**HT** 154 Squadron (c)  
Formed at Fowlmere November 17 1941 and immediately acquired HT coding. Used Spitfire VAs and VBs, eg HT:X-P8700. Moved to North Africa in November 1942. The squadron's aircraft flew without identity letters between November 1942 and mid-1943 when HT returned to use as on HT:E-ER676. Later used Spitfire IXs, eg HT:S-MA580. Disbanded October 29 1944. Reformed at Biggin Hill November 16 1944. Briefly flew Spitfire VIs, eg MD183, MD185, MD186. As noted under the entry for the letters 'HG' MD185 wore the code HG:U and it seems reasonable to conclude that this aircraft was then being flown by 154 Squadron which acquired Mustang IVs in January 1945, eg KH659, KH647, whose codes are unknown. Disbanded at Hunsdon March 31 1945.

**HT** 601 Squadron (c)  
During 1949 this RAuxAF squadron adopted standard style letters HT on its Spitfire XVIIs, eg HT:G-SL745, having previously used the letters RAH. Letters withdrawn from use

when the unit re-equipped with Vampires late 1949.

**HU** 406 Squadron (c)  
Formed at Acklington May 15 1941 and initially equipped with Blenheim 1s, eg L1451, and soon received Beaufighter IIs, eg R2281, aircraft wearing HU from formation until disbandment. Beaufighter IIFs also came into use in June 1941, eg R2338. Beaufighter VIFs used from June 1942 until summer 1944, eg X8169, HU:P-ND221 (an aircraft fitted with a thimble nose and AIMk VIII and credited with a Ju 88 and a probable He 177 on the night of May 14/15 1944). Mosquito XIs came into use July 1943, eg HU:A-HK180, replaced by Mk XXXs in June 1944, eg HU:S-MM751/G. Disbanded August 31 1945.

**HU** Station Flight, East Kirkby (c)  
Allocation confirmed, details of use unknown.

**HV** Allocation unknown  
Pre-war the letters HY were used by Battles of 88 Squadron. It is reported that HY was allocated to 342 Squadron but apparently never used.

**HZ** 44 Group Communications Flight (c)  
Allocation confirmed, details of use unknown.

**HZ** Allocation unknown  
Letters known to have been carried by Hudsons in Iceland, eg V9573. Also worn on Halifax VIs, eg HZ:S-RG510 and HZ:X-RG607.

**H2** Allocation unknown  
The letters H3 have long been associated with this unit when it occupied Oak's Field, Nassau, but there is no confirmation. □



This photograph of Hurricane Z3662 coded HP:E probably dates from 1941 and shows a machine of 247 Squadron.

**HW** 100 Squadron (c)  
Reformed December 15 1942 and received Lancaster I/IIIs, eg HW:J-ED749. Received Lincoln IIs in May 1946, eg HW:A-RF507. Unit letters relinquished April 1951.

**HX** 41 OTU (?)  
Persistent reports have linked HX with 41 OTU, but there seems little or no validity in this.

**HX** 61 OTU (c)  
61 OTU opened at Heston July 1 1941 as a Spitfire OTU. HX was its only code at this time, individual aircraft being identified by numbers up to about 70. The unit moved to Rednal on April 15 1942 and after the war it was based at Keevil. It used HX codes on Spitfire IIs, Vs, IXs, Master IIs, Harvard 1s and Mustang IIs during the war. Post-war letters were worn by Spitfire XVIIs, eg HX:F-TE196. Examples of wartime use: Spitfire IX HX:R-EN917, Master HX:5-W8562. HX is believed later to have been used by 'X' Squadron of the OTU.

**HX** 226 OCU (c)  
226 OCU formed post-war out of 61 OTU and retained the HX code along with KR. Its aircraft included Meteors HX:E-WH317 and HX:W-WA602. HX was later applied to its Meteor 8s, eg HX:I-WK717, the letters being black on camouflaged machines. One of its Vampire FB5s was HX:L-VV486. The unit closed (still wearing codes) on June 1 1955.

**HY** No allocation known  
Pre-war the letters HY were used by Battles of 88 Squadron. It is reported that HY was allocated to 342 Squadron but apparently never used.

**HZ** 44 Group Communications Flight (c)  
Allocation confirmed, details of use unknown.

**HZ** Allocation unknown  
Letters known to have been carried by Hudsons in Iceland, eg V9573. Also worn on Halifax VIs, eg HZ:S-RG510 and HZ:X-RG607.

**H2** Allocation unknown  
**H3** 111 OTU (?)  
The letters H3 have long been associated with this unit when it occupied Oak's Field, Nassau, but there is no confirmation. □



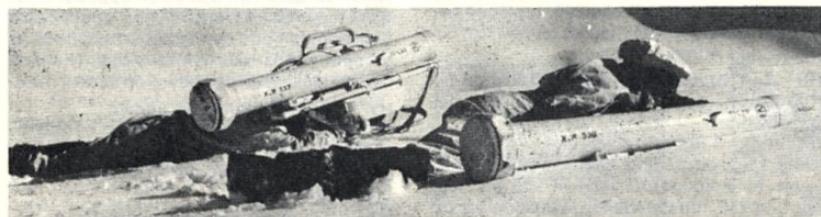
# in the field

Terry Gander and Chris Foss

## Euromissile anti-tank and anti-aircraft weapons

THE GUIDED WEAPONS Divisions of Aerospatiale (France) and Messerschmitt-Bölkow-Blohm (Germany) have formed a company called Euromissile to market their missiles in Europe. Both of these companies have a wide experience in the missile field and Aerospatiale (and its previous companies) have manufactured and sold more anti-tank missiles than any other company in the West, and probably the world.

Three views of the MILAN system in action.



the graticule of the optical sight on the target and the missile is kept aligned with the target by infra-red homing. The missile is launched from a tube which also acts as a storage and transport container. One infantryman carries two missiles in their tubes and another infantryman carries the firing post. This contains the arming and firing equipment, the x7 optical sight and the infra-red guidance system. MILAN can also be launched from a tripod, the shoulder or various types of armoured fighting vehicle.

One weapon has a minimum range of 25 m and a maximum range of 2,000 m. It takes 12.5 seconds to reach its maximum range. The complete missile weighs 6.7 kg, of which the warhead accounts for 3 kg. According to the manufacturers, MILAN will destroy any tank at present in service, and in addition can also be used against low-flying aircraft and helicopters. It is now in production for the French and German Forces, the first production order being for 200 launchers and 10,000 missiles.

### HOT

The HOT (Haut subsonique Optiquement téléguidé d'un Tube) is a second generation long range anti-tank system.

The missile is fired from a tube which acts as both storage and transport container. During the missile's flight, the operator keeps the graticule of his sight aligned on the target and the missile is guided on to the target by infra-red homing.

HOT has a minimum range of 75 m and a maximum range of 4,000 m. The complete missile and its container weighs 28 kg and is 1.3 m in length and has an outside diameter of 175 mm. The missile itself is 1.28 m in length, has a body diameter of 143 mm and weighs 22 kg at launch. On launching the four fins unfold. The warhead weighs 6 kg (with fuse) and this will penetrate all known armour.

HOT can be fitted to a variety of armoured fighting vehicles and helicopters, as follows:

**AMX-13** — three missiles either side of the turret. Trials completed.

**M-113(APC)** — fitted with a turret mounting two HOT missiles in the ready to fire position with additional missiles inside of the hull.

**Jagdpanzer Rakete** (German) — this would have two K3E automatic launching systems each with a missile in the ready to fire position, additional missiles would be stored in the hull for rapid loading. Trials completed.

**Helicopter** — trials are at the present time being conducted with the BO 105 helicopters with three HOT missiles fitted either side of the cabin and a gyro-stabilized sight. HOT can also be fitted to other helicopters such as the Gazelle or Alouette.

### Roland

The Roland is a surface-to-air missile system and has been designed to protect mobile army formations and fulfills a similar role to the Rapier which is now in service with the British Army. Roland has undergone extensive testing in Germany, France and the United States, where it is in competition with the British Rapier and French Crotale



missiles for a big order from the United States Army.

In the German Army Roland is mounted on a modified Marder chassis and in the French Army a modified AMX-30 chassis is used.

There are two models of the Roland: Roland 1 is a clear-weather system and Roland 2 is an all-weather system.

The complete system consists of a surveillance and search radar with IFF, an aiming sight coupled with an infra-red goniometer, a micro-wave tele-control transmitter and a computer for processing command signals to the missile. Guidance is through enslavement of the missile in the automatic guidance mode to the line of sight, which the gunner keeps trained on the target. In the Roland 2 the gunner is replaced by a tracking radar.

Ten Roland missiles are carried of which two are in the ready to fire position, the other eight missiles being in two revolver type magazines holding four missiles each.

The missile weighs 73 kg in its container, has a maximum speed of Mach 1.6, and a maximum range of 6.3 miles. Roland will also be used by the French Navy aboard some of its ships. The Roland system is not yet in full production.



Top left Roland system on modified Marder chassis. Top right Bolkow Bo-105 helicopter fitted with six HOT anti-tank missiles. Above HOT on an AMX-13. Below launching a Roland from a Marder.



# Return from Balaclava

First article in a new series of 54 mm figure conversions by popular author **Sid Horton**

I WAS VERY tempted to subtitle this, the first of a new series, 'Son of the Light Brigade Rides Again', but, to be serious for a moment, I am sure that most readers who have even a passing interest in the Crimea, must be familiar with Lady Butler's painting *Balaclava*. After all, it's done for the Light Brigade what her equally famous *Scotland Forever* did for the Scots Greys, and it does seem to be *The obligatory painting to reproduce in any book having any bearing on the Crimean War*.

The real inspiration for this series came when I first saw a print of this painting reproduced in glorious technicolour, as the cover

of a recently published book *The Gallant Six Hundred* by John Harris.

The painting itself belongs to the Manchester City Art Gallery Collection who, for a small monetary remuneration, are willing to part with photographs of it, in black and white only I'm afraid. Address at the end of this article.

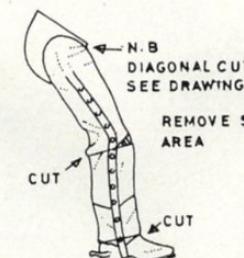
Coming back to the painting, it does, as a popular 'Sunday' will have it, 'contain all human life', eg suffering, heroism, the wounded in profusion (with an equal amount of red stuff liberally splashed about), comradeship, the helping of wounded colleagues to return, even concern for the suffering of dumb animals, and, just to round off a true Victorian narrative painting, some idiot cheering. Well, it takes all sorts.

The central figure of this painting is a stunned hussar who, in the mythology surrounding the 'Charge', is popularly supposed to have been posed for by Private William Henry Pennington, who, later in life, became a well-known Shakespearian actor. Although Lady Butler, in her autobiography, never says who posed for the figure, she does say:

'There were, however, some Tableaux Vivants at an interesting house — Mrs Bishop's, a very intellectual woman, much appreciated in society in general, and Catholic society in particular — which may be recorded in this very personal narrative, for I had a funny hand in a single-figure tableau which showed the dazed 11th Hussar who figures in the foreground of my "Balaclava". The man who stood for him in the tableau had been my model for the picture, but to this day I feel the irritation caused me by that man. In the picture I have him with his busby pushed back, as it certainly would and should have been, off his heated brow.

1

BASIC RIGHT LEG FROM THE AIRFIX "SCOTS GREY" KIT.



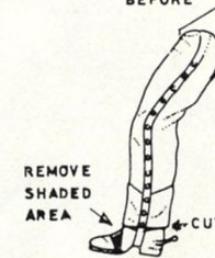
2

FINISHED RIGHT LEG. FILL BLACK AREAS AT THE BACK OF THE KNEE & ANKLE



3

BASIC LEFT LEG. NOTE AGAIN THE DIAGONAL CUT, AS BEFORE



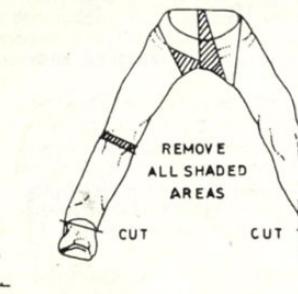
4

FINISHED LEFT LEG. FILL BLACK AREA



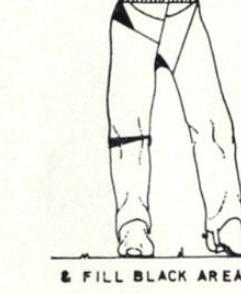
5

BASIC LEGS FROM THE FRONT CEMENTED TOGETHER FIRST



6

REMOVE SHADED AREA



7

FINISHED LEGS FRONT & SIDE VIEWS



8



But, while I was posing him for the tableau, every time I looked away he rammed it down at the becoming "smart" angle. I got quite cross, and insisted on the necessary push back. The wretch pretended to obey, but, just before the curtain rose, rammed the busby down again, and utterly destroyed the meaning of that figure! We didn't want a representation of Mr So-and-so in the becoming uniform of a hussar, but my battered trooper. The thing fell very flat. But tableau, to my mind, are a mistake in many ways.'

To return to the painting again, Lady Butler has allowed herself quite a large amount of artistic licence in uniform detail,

some of which, where I feel necessary, I will correct to the best of my knowledge. Other I will leave. After all, all I am trying to do is reproduce her painting as a 3D diorama. I just hope it works.

As I have stated previously, the aim of these conversion articles is not to have thousands of copies, or even a few copies, of my figures. The aim is to give possibilities, hints and tips and an idea which may spark off an idea in yourself. Although 'imitation is the sincerest form of flattery', I have no wish to convert anyone to the 'Light Brigade Bore' I am (my wife's sentiments, I'm afraid). The figure and, especially later, the horses, can

be, with slight changes to uniforms, accoutrements and equipment, used for any period. I have recently seen an article of a conversion I did last year of a Light Dragoon being dragged, turned into a Parliamentarian trooper being dragged, and it gave me a much greater thrill to be told it was based on my conversion than if it had been an instantly recognisable Light Dragoon. So please do your own thing.

The kits used in this conversion are the Airfix Hussar and Scots Grey kits, and sword No 228 from Historex spares.

This figure is built from the feet up, as the stance requires the legs and feet to be

'right' first.

Take the legs from the Airfix Scots Grey kit and carve away the raised stripe and buttons running down the outside of each leg. Remove the mould lines and generally clean up, then cement the legs together and allow to dry out thoroughly, preferably overnight. Then, carefully using a razor saw, remove both legs from the lower trunk with the diagonal cuts shown in drawings 1, 3 and 5 and, as in drawing 5, remove the shaded areas shown. It's probably best to remove less than I have shown in the drawings at first and, by constantly checking and cutting until they are 'right' to your own satisfaction,





Left unpainted figure showing areas of Green Stuff. Above finished figure.

cement them back together again. Allow to dry out overnight before any more work is done on them.

Now, saw right through the knee and remove the foot of the right leg. Also remove a small wedge from the front of the knee shown as a shaded area in drawing 1. Keep this and replace it at the back of the knee as packing, shown as a shaded area in drawing 2. Cement the whole of the right leg together and you should now have a straight leg, something like drawing 2 from the side, and drawing 6 from the front. The foot is cemented on with the appropriate packing

of scrap plastic at the right angle. More checking to suit your own eye will tell you when this is right.

The left leg is kept intact, but the foot is removed and a small wedge cut from the instep which allows the foot to be bent. Do this, then cement the foot to the leg. Please note here that the left heel is clear of the ground and that the foot is angled outwards. All small gaps can be filled with Green Stuff at this point, and allowed to dry. Also note that a small amount of plastic has to be removed from the waist, shown as a shaded area in drawing 6. This is done so the figure

has its weight on its right leg.

Now we come to the head. The one used is from the Airfix hussar (obviously). Using a razor saw, saw right through the busby, carefully, about halfway up, as shown in drawing 9. Then cut a circle of scrap plastic from the base and insert this into the cut you have just made. The idea is to heighten the busby, while still keeping the shape of the top, as in drawing 10. Also remove the stub of plastic below the collar at this point. Carve away the collar to an 'open ended' shape. The photographs may help. Side whiskers are built up with Green Stuff applied in small amounts

with a needle, and worked up into a hairlike texture while still wet. Fill any slight gaps in the busby, and sand smooth. Add cap lines from stretched sprue, cement in place with Mek-Pak or a similar liquid adhesive. How the cap lines go around the busby is shown in drawings 11 and 12. The busby bag has its tassel removed, and the whole thing is fined down, constantly checking for fit, as it lies limply over the busby: it is not cardboard stiff, as I have seen so many times before. The chin scales are unhooked and hang down from the left side, see photographs. Lay the head to one side.

The body used comes, again, from the hussar kit. Carve away all frogging and raised decoration, and sand smooth. Cement the two body halves together and allow to dry out thoroughly. Then, carefully using a razor saw, cut right through the body just above the barrel sash, taking care to keep this intact. Then remove the shaded area at the waist as shown in drawing 14. Cement the body and barrel sash together. Carve away the raised right shoulder, so that both shoulders are equal. The weight being on the right leg means the right shoulder should be slightly, and I mean slightly, lower than the left. You should now have something like drawing 16.

Make the open coatee front from the 5 thou plastic card supplied in these kits, using templates 'A' and 'B' in drawing 17. Cement them to the body in the position shown in drawing 17. 'A' then wraps round the body. Note that only the inside fold of 'B' is cemented to the figure, the pointed end being free to represent a coatee front turned back and caught under the crossbelts (see photographs). Cement the body to the legs and the head to the body. Fill all gaps and the difference between the new coatee and the body. Sand smooth when dry. A scruffy shirt which has pulled loose from the waist belt is built up using Green Stuff.

Little work has to be done to the right arm, apart from removing decoration and mould lines. Remove the hand and re-position. The left arm is straightened, the hand re-positioned and the fist clenched. Fill and sand smooth. When you are satisfied with all this, the crossbelts, haversack and water bottles can be added, and the cap lines around the neck can be added.

#### Painting details

Each to his own style and technique, so here all I will give is the colours.

**Busby** — Black fur, yellow cap lines, crimson bag, brass chin scales.

**Coatee** — Navy blue with yellow frogging and decoration, brass buttons, white crossbelts and haversack, navy blue water bottle, brown leather strap, white shirt.

**Overalls** — Crimson, double yellow stripe, barrel sash scarlet, with yellow barrels, swordbelt white, brass buckle, steel scabbard, black boots. All suitably grimy and blood stained. Please note that the new Humbrol British Crimson is ideal if slightly darkened for the 11th Hussars.

City of Manchester Art Gallery, Mosley Street, Manchester M2 3JL.

# The Fleet Air Arm in war and peace

Part 1: origins and operations of the RNAS described by John D. R. Rawlings

WITH THE ADVENT of practical flying machines at the beginning of this century the Services of many nations turned their eyes to the possible uses of such machines for their own warlike purposes. And amongst these the British Royal Navy was no slow starter. It is a curious paradox about the Royal Navy that it has been one of the most tradition-bound Services of them all, and yet, when it turns its attention to using new devices, it does so with an ingenuity and thoroughness which overcomes most obstacles. And so it was with the Royal Naval Air Service.

Their Lordships of the Admiralty doubted if anything so frail as aviation could be of possible use to their armoured warships and for many decades this disdain put the Navy at a great disadvantage; meanwhile those officers and men entrusted with the development and operation of naval aviation worked wonders with their enthusiasm and little else.

Beginnings took place in 1909 with the appointment of a Naval Air Assistant at the Admiralty; evidence that more than just appointments took place came with the commissioning of a rigid airship, unfortunately and prophetically named the 'Mayfly'. Built by Vickers Sons and Maxim, its official appearance was scheduled for September 29 1911, a day of typical equinoctial gales; these wrapped the airship round the hangar doorpost and broke its back.

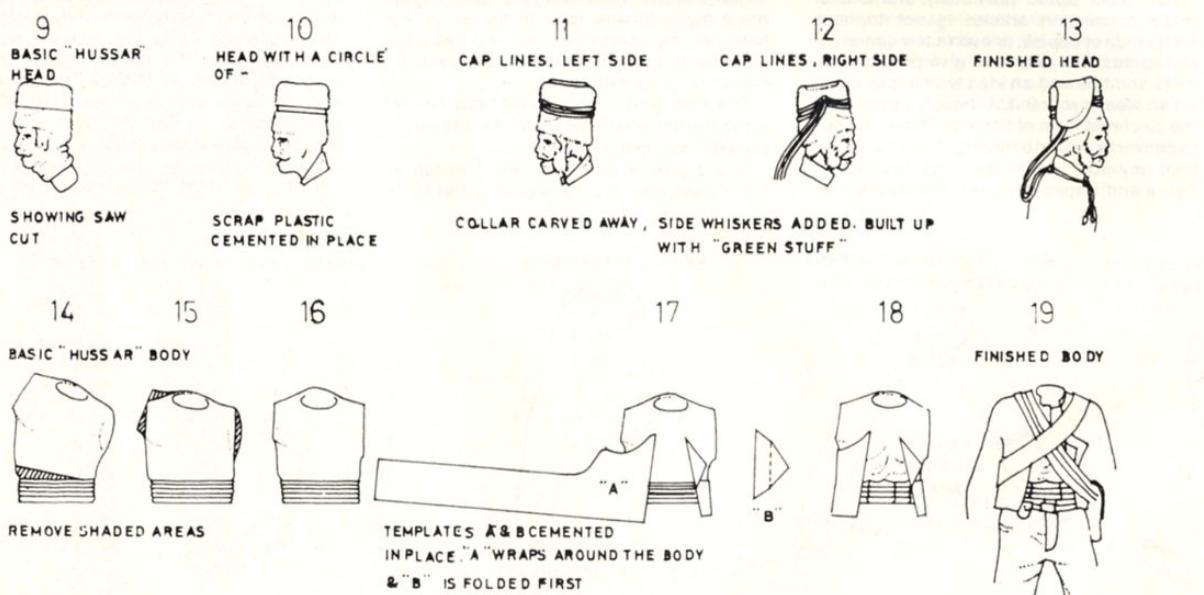
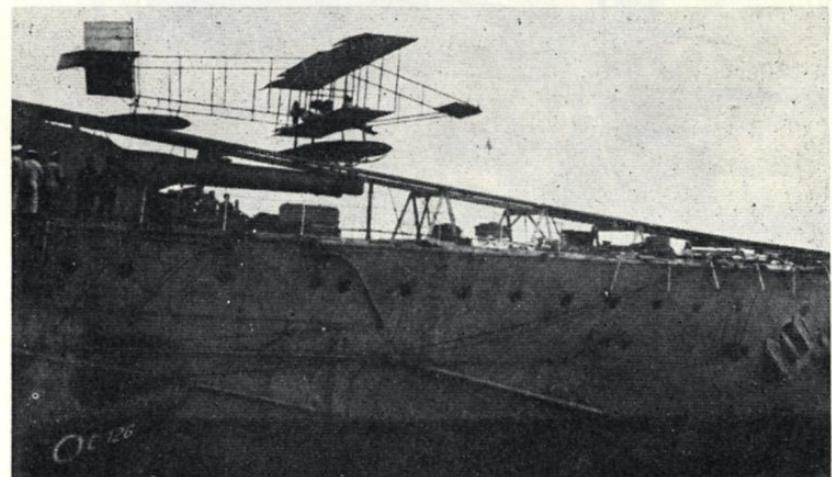
Surer beginnings had taken place earlier that year at Eastchurch in the Isle of Sheppey, where four naval officers learned to fly heavier-than-air machines, and these four men, Lieutenants Gregory, Longmore and

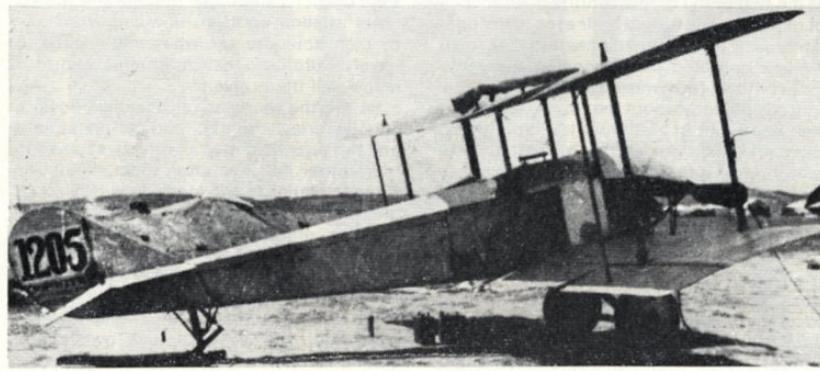
Samson, RN and Lieutenant Gerrard, RMLI, were of such calibre that they literally forced naval aviation upon an unwilling Admiralty by their ability to see what was needed in naval aviation and their determined efforts to resolve all the problems.

Before the year was out they had flown a 50-mile cross-country, bought an airfield and two aircraft, set up a training machine to train other officers after them, landed a Short biplane on the Medway with airbags and flown an aircraft off a warship (from a platform erected above HMS *Africa*'s fore gun turret). This was no mean feat at the time but it was all nearly scuppered when the Royal Flying Corps was formed to serve both Army and Navy with a distinct bias towards the Army. The Navy kept its own establishments open and over the next few years began building up its own independent Air Service.

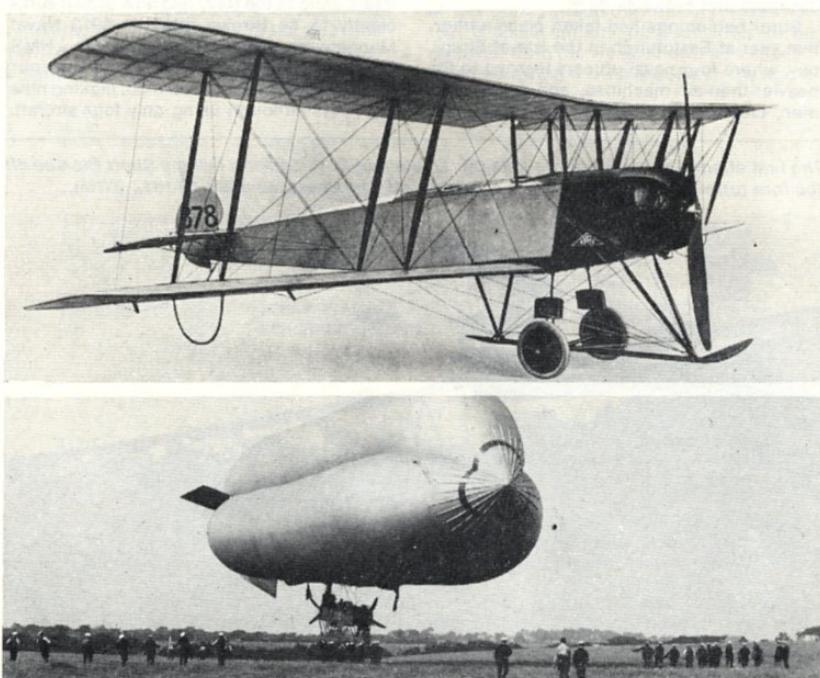
These four Lieutenants battled on through 1912 and in 1913 the Navy's disdain began to melt — air stations began to be established to cope with the traditional battleground for European sea conflict, the North Sea. Isle of Grain, Great Yarmouth and Felixstowe came into being with Calshot to cover the Channel area. The Navy again turned its thought to lighter-than-air and ordered eight airships from various sources and much experimentation went into the use of W/T in the air. This infant child of the Navy had now grown sufficiently to be thrown into the 1913 Naval Manoeuvres, having its own ship, HMS *Hermes*, an adapted cruiser. In the first four days it showed what it could do, making nine sightings although using only four aircraft.

The first attempt at carrier-borne take-off: Lieutenant C. R. Samson flying a Short Biplane off the fore turret of HMS Africa whilst at anchor off Sheerness, January 10 1912 (IWM).





**Top** the Navy's first operational aircraft were a miscellany of types gathered in from all over the place. This Caudron Twin is an example of the unusual designs which served, in this case with 3 Wing at Imbros (P. Arnold). **Above** one of the earliest successful types with the Fleet, and the first of a long line of Sopwith aircraft for the Navy, was the Sopwith Tabloid. This could be used as a scout seaplane or as a general purpose landplane, as shown here (IWM). **Below** the earliest of strategic bombing raids, and a very successful one at that, was flown in this and other Avro 504s in a raid on the Zeppelin works on Lake Constance on November 21 1914. **Bottom** coastal airships played a great part in keeping the submarines beneath the surface and unable to attack British shipping (IWM).



one of which was wrecked and another 'captured'. By the end of the exercise most of the naval aircraft used were in need of repair but the point had been made — aircraft were of use for naval reconnaissance. During the exercise air stations had been established on a temporary basis in Scotland with great success.

1914, the year in which the Royal Naval Air Service was officially created, severing the link with the RFC, brought further developments and the RNAS was very present at the Royal Naval Review at Spithead, its seaplanes being moored in line with the ships. It was in this year, too, that the first British torpedo drop from the air took place at Calshot by Commander Longmore. But this year was important for it was the year when all these experiments were to be put to the stern and ultimate test of war.

For such a test the Service had an airship station at Kingsnorth with two airships ('Astra Torres' and 'Parseval') and these promptly flew escort duties to the cross-channel convoys taking the BEF to France. Commander Samson took his Eastchurch Wing to France, all ten aircraft of mixed parentage, ready for action but, rather than wait to explore the aircraft's role in the general mix-up in the first few days of the war, acquired some armoured cars and ground troops and entered into the land battle (such was the casualness of organisation in the first few weeks of the First World War).

Commander Longmore went around the flying schools commandeering civil aircraft and bringing them to Samson to form the Dunkirk Wing which set its face against the German Zeppelin and submarine bases in Belgium. Samson immediately started bombing the Zeppelin sheds at Zeebrugge, using 20 lb bombs from Sopwith Tabloids, tiny little single-seat biplanes about the size of a Pitts Special. On the third attempt a shed with a brand-new Zeppelin was blown up, surely one of the most cost-effective air raids in aviation history. Flushed with this success, four Avro 504s were taken south in conditions of great secrecy and, from Belfort, attacked the Zeppelin factory and HQ on Lake Constance. For the loss of one aircraft another Zeppelin was destroyed and the gas-making plant put out of action completely. Strategic bombing had begun.

The Dunkirk Wing's terms of reference prescribed 'defence' against U-Boats and Zeppelins but this was conceived entirely in terms of attack and the Wing slowly and painfully built up its raids on Zeebrugge and Ostend. The value of such attacks was clear, even to the die-hards in the Admiralty, so a daring plan was conceived and executed finally on Christmas Day 1914 whereby three seaplane carriers, HMS *Engadine*, *Empress* and *Riviera* set out into the North Sea and hoisted overboard nine seaplanes, of which seven managed to get airborne. The target was Cuxhaven's airship sheds but these they could not find so attacked Wilhelmshaven, causing slight damage apart from being the cause of such alarm that two warships collided. Not very impressive, perhaps, but this raid taught lessons that bore much fruit in years ahead.

Now that the war was upon us and the U-Boat menace was already greater than

feared, the defence of British coastal shipping became important — the fact that East Coast towns were being shelled by impudent U-Boats was embarrassing in the extreme. So Coastal Air Stations were established around the coast and, with their frail biplanes, attempted to set up a system of patrolling which would deal with the threat.

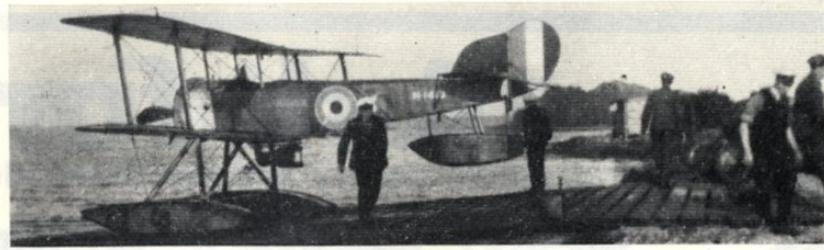
Most of these air stations had a land aerodrome and a slipway for seaplanes and it was found that, on many occasions, the landplanes were the better for the job for, with any sea running, the seaplanes were unmanageable or damaged or both. In fact, it was not until 1915 that any actual sightings were made but the most valuable task which these flights performed was to keep the submarines below the surface. This task was now augmented by airships; development had gone on from the early naval airships and Admiral Fisher conceived a Submarine Scout Airship — it was tried and it worked. The type was put into production and came into service in numbers late in 1915, taking over much of the anti-submarine patrol duty from the seaplanes.

But now the German Zeppelins were raiding England and the hard-pressed RNAS was called upon to provide defence against them. The Service used its landplanes at Emergency Landing Grounds around London and in France. The Dunkirk Wing achieved first success when Flight Sub-Lieutenant R. A. J. Warneford blew up LZ 37 in the air by dropping bombs from his Morane Parasol on to the airship — and all but blowing himself up too! For this he was awarded the Victoria Cross.

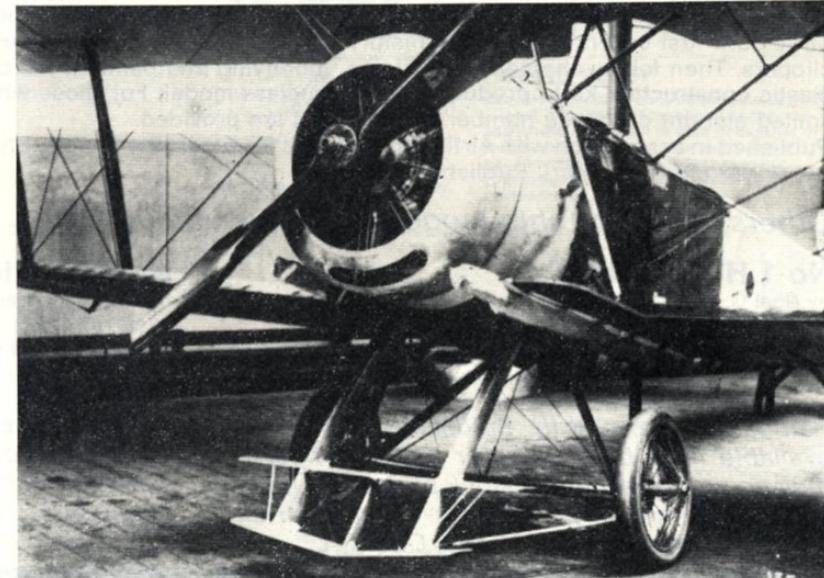
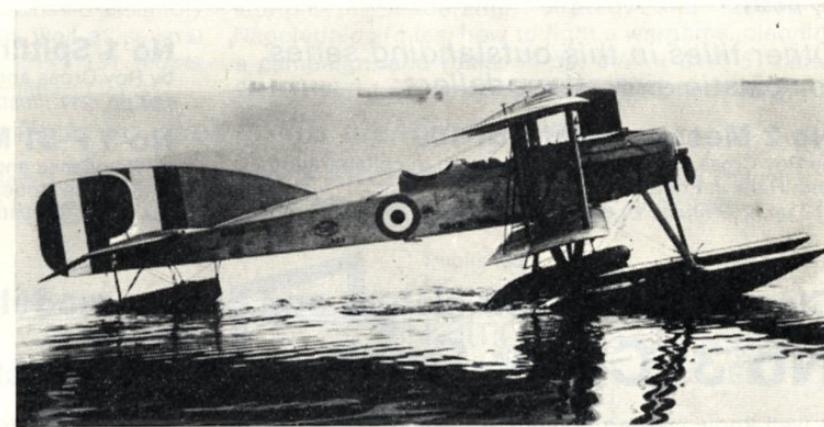
As an adjunct to the Fleet the RNAS found itself going where the Fleet went; so Commander Samson took his No 3 Wing to the Eastern Mediterranean for action at Gallipoli. With seaplane carriers *Ark Royal* and *Ben-my-Chree* he set out to enter into the fighting, setting up a base at Tenedos. The situation was hopeless on the ground and all the frantic activity by 3 Wing in the air availed but little; in fact the Wing was better employed in mine-spotting for the Fleet and, almost incidentally, accomplished the first successful torpedoing from an aircraft, even though the aircraft (a Short 184) had been forced on to the water by the weight of the torpedo! By and large, however, the Gallipoli campaign was not a success for 3 Wing.

The naval air war had shown up certain limitations, one of the most serious being the frailty of seaplanes in any condition other than calm. The remedy for this began to be found when Lieutenant Porte brought two Curtiss H4 flying-boats from America. Although they were not very seaworthy as they stood he designed new hulls for them and then went on to develop improved flying-boats based on them and the maritime ocean patrolling moved a long step forward. The Felixstowe F.2A, Porte's most successful development, stayed in service after the war as a thoroughly sound flying-boat and one on which the RAF's long line of boats was founded. These developments meant that the RNAS needed to concentrate much more on North Sea patrols, so in 1916 the

**Continued on page 106**



**Above** logical successor to the Sopwith Tabloid was the Sopwith Baby floatplane. N1413 is about to be launched off the slipway with a bomb slung amidships. **Below** despite the fact that this particular machine appears to be moving without the help of a pilot or even a revolving propeller, the Short 184 was the most successful of the Navy's floatplanes (or perhaps that's the reason ...). They flew long patrols, principally over the North Sea, guarding the convoys and spotting for enemy vessels (Real Photos). **Bottom** the epitome of the general purpose aircraft was the Sopwith 1½ Strutter, first built for the Navy. It was used as a single-seat scout, two-seat recce plane, bomber, ship-borne recce machine, was flown off the gun turrets of battleships and, as here, used for experiments with hydrofoils and flotation gear.



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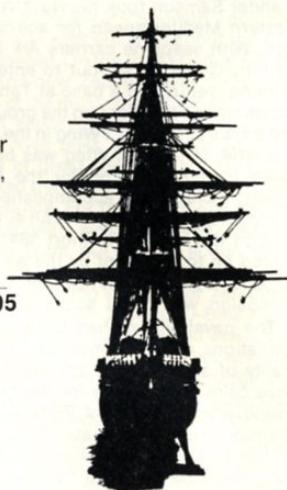
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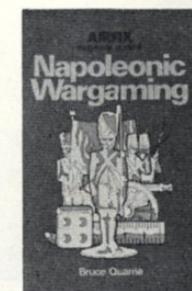
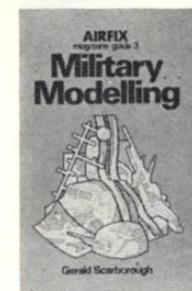
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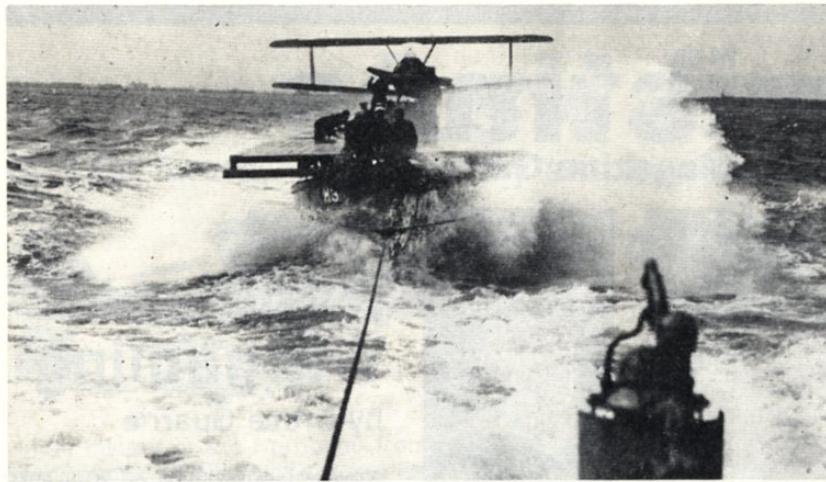
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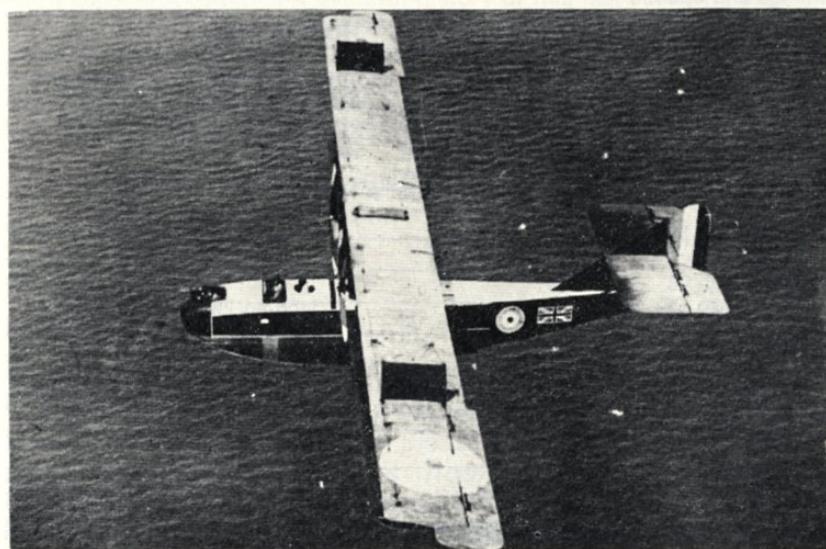
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A10/74



**Top** the problem of flying on and off ships was not easily solved. One attempt was made to tow lighters behind fast ships such as destroyers to enable aircraft to fly off. A Sopwith Camel such as this, piloted by Lieutenant S. D. Culley, flew off such a lighter and brought down a Zeppelin (IWM). **Below** a big step forward, though a fatal one, was the series of experimental landings flown by Squadron Commander E. H. Dunning, bringing a Sopwith Pup on to HMS *Furious*'s fore deck. On one of these he went over the side and was killed (Real Photos). **Bottom** the most practical maritime recce aircraft in the First World War was the Felixstowe F.2A flying boat, seen here being flown by 267 Squadron (MoD).



#### Continued from page 103

RNAS relinquished the air defence commitment, thankfully, to the RFC. This was the year in which the anti-submarine force, with over 40 SS airships and practical aeroplanes at last, began to become an effective system.

But what of the Dunkirk Wing? The Navy was still in occupation and holding its offensive flying against the enemy's coastal installations. All along it had been hampered by the motley collection of aircraft, many of them improbable as effective warplanes, and when it looked for replacements it was not enamoured of the types that the official Royal Aircraft Factory was producing. So it turned to the independent manufacturers in general and Sopwith in particular. Here it found two most effective aircraft, the Sopwith Pup Scout and the 1½ Strutter which could be used as a single- or two-seater, bomber, fighter or recce plane. So these were ordered for use in France; unfortunately, when they began to arrive the Battle of the Somme was showing up the RFC's complete ineffectiveness using the official type aeroplanes so most of these two types went first to the RFC. When the RNAS did get them in good numbers then their offensive activities prospered. And in the pipeline were the fruits of the thoughts engendered by those early strategic bombings at the beginning of the war. A particular wing, No 5, was using the Short 184 for night raids behind the enemy lines but these seaplanes were basically ineffective; they were replaced at the end of 1916 with, first the Short Bomber and then later the Handley Page 0/100, two large 'heavy' bombers, the forerunners of Bomber Command.

1917 was the year in which all these hopeful developments began to make a difference in the activities of the RNAS. With the Small Americas and the F.2A flying-boats an effective form of patrolling the North Sea, known as 'Spider Webs', was evolved which cut down the opportunities for the U-Boats to make a nuisance of themselves. On land the new aeroplanes from the Sopwith stable were giving the RNAS an edge over German opposition at last — the Pup and 1½ Strutter were followed by the Triplane and the Camel, most famous of all. The Handley Page, too, was setting new standards for bombing effectiveness, particularly by night.

However, the most important problem for the Navy to solve was still proving intractable, namely, how to operate landplanes on and off ships. Newer ships had come into service — *Campania* and *Furious* — but these still followed the old pattern of superstructure in the centre with front and rear platforms from which seaplanes could be hoisted in and outboard. Hopefully aircraft could be flown off the front platform but to land meant ditching alongside (for a landplane) and then being hoisted aboard. During 1917 Commander Dunning used a Sopwith Pup to try and land aboard *Furious*'s forward platform by flying around the funnel and superstructure. After a successful landing further attempts resulted in his sliding over the side and being killed. This hastened the day when a flush deck was to be installed and the new carrier *Argus* was so planned.

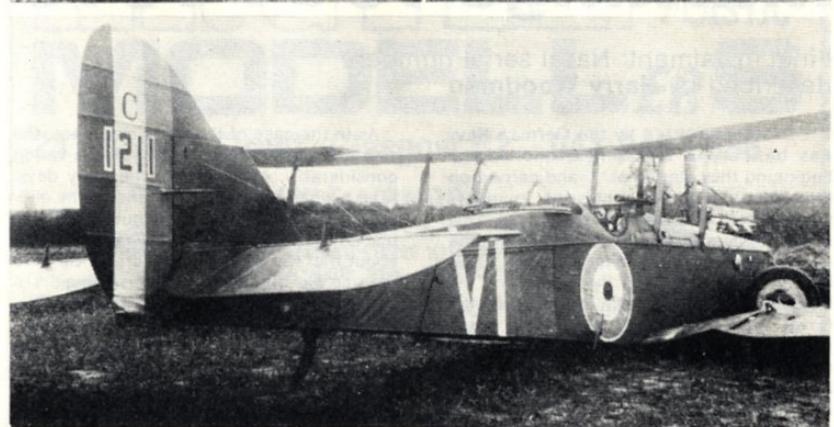
So at the end of 1917 it really seemed that the RNAS was about to climb to the crest of a wave in 1918. Its aircraft types were superior to pretty well all comers, its offensive spirit, coupled with developed tactics, meant it was more and more achieving successes on its sorties and many of its bigger operational problems were in sight of being solved. But then politics intervened; for long there had been wrangling within the service ministries about aviation and this had now broken out to such an extent that it was mooted, and eventually agreed, that the air branches of the Army and the Navy should be formed into one independent Service, the Royal Air Force.

This major upheaval took place on April 1 1918 (those who opposed it could not but point out the relevance of the date) and so the Navy lost control of the Air Service it had built up so painstakingly over the past years. This resulted in a hard conflict of loyalties within the Navy: should the members of the RNAS remain loyal to the Navy or to aviation? Most of them chose to remain in the flying service with the result that the Navy was starved of practical aviation advice over the next two decades and this had important repercussions in the years ahead. Many of the pioneering naval aviators who had given so much to the RNAS now carried on as a small part of the RAF.

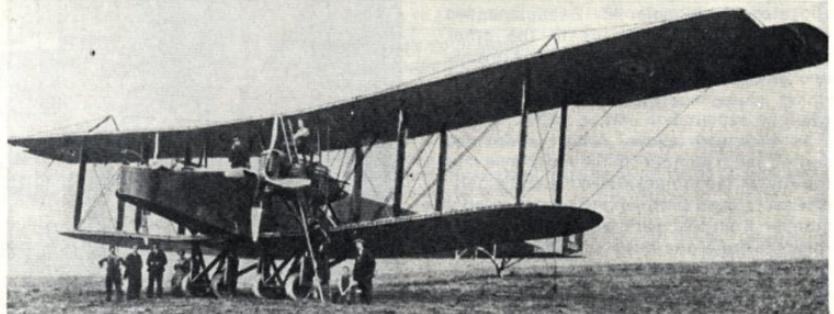
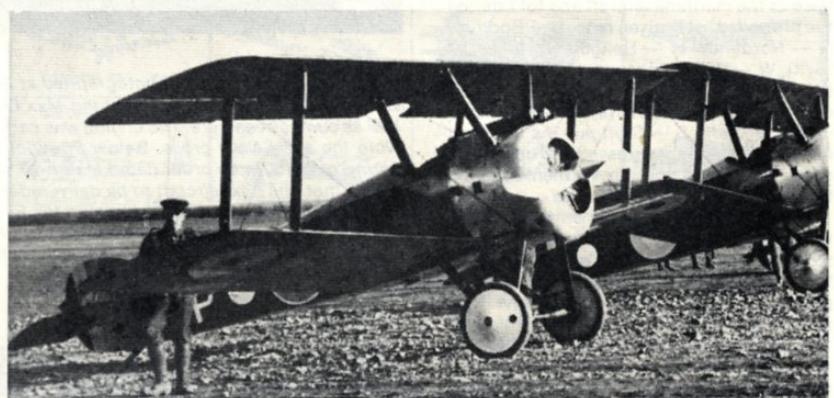
Initially the effect on the 'working' RNAS was small for the transfer came at a hectic time for all military aviators. In March, 1918 the German Army had made a furious and all-but-successful bid to break through the Allied lines and strike for Paris, and all the Allied aviators on the Western Front were thrown into the ring to try and stem this advance. When it was at last halted then came the task of pushing the Germans back and back to a position from which the war could be won. In this the RNAS squadrons, now renumbered in the 200 series, got on with the job without worrying too much about changing their uniforms or re-titling themselves except officially.

In the air, flying Sopwith Camel scouts, DH4 and DH9 day-bombers and Handley Page heavies, they provided more than an equal partnership with the 'brown jobs' who were now alongside them in the RAF. It was the summer of large bomber formations escorted by hordes of scouts, of big dogfights between opposing scout wings and all the time the quiet unsung courage of the maritime squadrons operating far over the seas with engines unreliable by today's standards, preventing the U-Boats from doing their deadly work. Whilst this had to be done the naval aviators could be satisfied that they were doing an important job supremely well — the ranking could wait until the war ended. And this eventually arrived in November 1918.

By then the now extinct RNAS had contributed more to the science and skill of military flying techniques than any other military service in the world, no small contribution for a Service which, seven years before, consisted of four lieutenants being trained to fly by a civilian instructor on his own aircraft with the reluctant agreement of a battleship-orientated Admiralty. □



**Top** the Navy never abandoned its strategic bombing ideas, and with the DH4 found an effective aircraft for the task. This line-up is of 202 Squadron aircraft at Berques in 1918. **Above** its later development, the DH9, was less reliable, and not a few ended their sorties like this 218 Squadron machine, here landed in Holland due to engine failure (F. Gerdesen). **Below** it was due to the Navy's purchasing that the Allies acquired the Sopwith Camel, one of the finest First World War fighters. These machines are from the famous 208 'Naval Eight' Squadron (MoD). **Bottom** final outcome of Commander Murray Sueter's request to Frederick Handley Page to build him a 'bloody paralyser of a bomber' was the 0/400 which entered service with RNAS squadrons before their amalgamation into the RAF and carried the offensive deep into German territory (Real Photos).



# German national markings 1914-1918

Final instalment: Naval serial numbers described by Harry Woodman

THE SYSTEM ADOPTED by the German Navy was basically a very simple one. In the beginning they started at '1' and carried on throughout the war until the numbers reached well into the nine thousands. This simple system was applied to all maritime aircraft, i.e. seaplanes and flying-boats. Naval land machines such as those used by the Marine Feldflieger Abteilungen and the Naval Jastas employed the same serial number system as that used by the Army and described in the last feature. There was an exception, however, which is dealt with below.

It had been intended originally that the serial number be prefixed with a class letter as in the case of Army machines. The naval letters however were 'E' for a monoplane and 'D' for a biplane. As it turned out, this system was not continued beyond the 20th machine supplied to the Navy.

Apart from this there were two other instances when a letter was used in addition to the number. In the early months of the war a few seaplanes and some landplanes carried the letter 'K' or, in one instance, 'Kiel', as additional identification. The German Navy at one time had contemplated the use of a whole series of letters to indicate the home base of the maritime aircraft and for interest the proposed list is given here: B — Borkum; N — Nordeney; H — Heligoland; L — List (Sylt); W — Wilhelmshaven; Ho — Holtenau (Kiel); Wa — Warnemünde; Seaplane carriers: SE — Santa Elena; A — Answald; O — Oswald; and S — Stuttgart. As it turned out the idea never progressed and only in the cases of Kiel and possibly Warnemünde did the aircraft carry these letters.

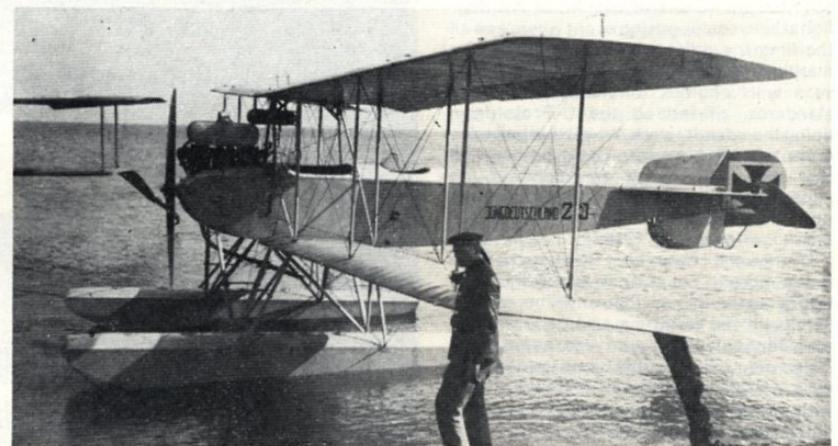
In connection with this it is interesting to refer back to part 4 of the feature on German national markings dealing with the form of Naval cross. In this article was included a picture of a Fokker M.7 with the name 'Kiel' painted on the side in addition to the number 101. It should be noted that this number is in the Army series (in actual fact it would have been B/101/14) and not in the Naval maritime series, for 101 in that latter series was allocated to a Rumpler 4B 12 seaplane (see list below). This leads us to the other instances when a letter was used and reveals one of those divergencies from the norm which cause such confusion, especially when no explanation can be found.

As indicated above, Naval landplanes carried serial numbers in the Army style and the Fokker mentioned above illustrates this. However, Naval landplane trainers carried a number from the *maritime series* and this was prefixed by the letter 'S' (presumably for *Schulflugzeug* or training machine). In addition to this it appears that seaplane trainers carried no such individual marking.

As in the case of the Army machines, the size and style of the serial number varied considerably, especially in the early days. After a while it settled down and by the middle period of the war the numbers were placed in the usual position forward of, and about half the height of, the cross. By 1918 the size was officially defined as being 0.5 of the height of the vertical arm of the cross.



Above Oertz FB 3, No 46, photographed at Zeebrugge in early 1915. This Hamburg firm were yacht builders, the designer, Dipl Ing Max Oertz giving special attention to the design of the hull as can be seen here. The engine was carried in the hull and drove the airscrew via a chain. Note the early Navy cross. Below Friedrichshaven FF 29 No 213 'Jungdeutschland' in the spring of 1915. In an order dated March 20 1915 from the German Naval General Staff it was stated that 'the next aircraft to be delivered from Gotha will receive the name "Frauenflottabund" instead of a number, likewise for FF "Jungdeutschland" and the first Danzig Werft aircraft, "Westpreussen"'. Despite this the Friedrichshaven shown here has a number. No photographs of the other machines are available. (Peter Grosz photo).



The numbers were painted in black but occasionally a very thin white outline was added.

## German navy seaplane numbers 1914 - 18

(includes the few flying boats used by the German Navy)

The following list is not complete, like other such lists there are gaps which cannot yet be filled. In addition to this it is quite possible that certain blocks of numbers shown may have remained numbers only, the actual machines may have been ordered but never built or delivered for one reason or another.

It will be noted that in the early series a small number of non-German designs are listed and represents a practice carried out by other Governments in the years imme-



An Albatros B-II trainer clearly showing the 'S' in addition to the serial number from the maritime series despite the fact that the machine is a landplane. Note plain varnished fuselage and the cumbersome Haegle und Zweigle radiator. It would appear from this and other photos that crosses were not generally carried on the sides of fuselages in the case of Naval trainers.

dately preceding the war when certain promising looking aircraft were purchased for evaluation purposes, possibly with a view to building them under licence.

Unlike the Army, the German Navy did not identify its machines by class letters (with the exception of the Field Units) and used a variety of abbreviations, some of which remained unchanged from the earliest days of the war. Explanations of the main ones, follow: C.C. — Used by Hansa Brandenburg and is short for Camillo Castiglioni, the financier who took over the firm; CLS — Late symbol and indicates a seaplane version of the Army's CL type; CS — Late symbol and indicates a seaplane version of the Army's C type; DD — Doppeldecker (biplane); FB — Flugboot (flying-boat); GW — Gross Wasserflugzeug (large seaplane); RS — Riesenflugzeug See (very large waterplane); SF — (Probably See Flugzeug) seaplane; WD — Wasser Doppeldecker (biplane seaplane); W — Wasserflugzeug (waterplane).

Readers should refer to the list of German aircraft manufacturers for the explanation of firms' abbreviations. Throughout the list types of engines and hp are given where known. The engine abbreviations are as follows: ARG — Argus; NAG — NAG; Merc — Mercedes; Bz — Benz; Mb — Maybach; BuS — Basse and Selve. The terms Danzig, Wilh and Kiel indicate a product of the Kaiserlich Werft 'KW' (Imperial dockyards).

### Number

### Aircraft

E1	Alb monoplane (Taube)
D2	Alb (70 hp)
D3	Alb (70 hp)
E4	Ru (Taube)
D5	Alb D5 (95 hp NAG)
D7	AGO biplane (Farman type 100 ARG)
E8	Ru (Taube)
D9-11	Alb (100 hp ARG)
D12	Avro biplane
D13	Alb B.1
D14	Alb (100 Merc)
D15	AGO biplane (Farman type)

Continued on page 110

# ARGYLE MODELLERS

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1/72

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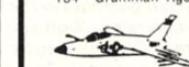
303 Junkers Ju88/

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### 134 Grumman Tiger



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### 190 RB-57F Canberra



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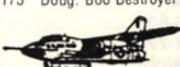
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### 200 TA154 Focke Wulf



Injection Mould Radar Complete Kit — £1.50

### 175 Doug. B66 Destroyer



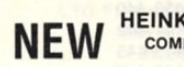
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### 201 Stuka Ju 87



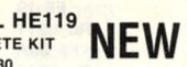
Fuselage/Canopy — 60p

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### 147 Dornier Do15WAL



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### 153 Boeing Vertol



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### 154 Douglas F3D-2 Skynight



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### 165 Grumman AF-2W5 Guardian



Complete Kit — £1.20

### ME 323 Gigant 140



Complete Kit — £4.50

### 157 Lockheed F-94A, B, C



Complete Kit — 95p

### 160 Curtis SBC-4



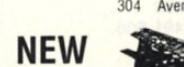
Complete Kit — 95p

### 173 T-28 Trojan



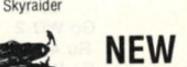
Complete Kit — 70p

### 304 Avenger Skyraider



Conversion Kit — 60p

### 181 Junkers Ju86



Complete Kit — £2.50

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Continued from page 109

Number	Aircraft
D16-17	Alb (100 NAG)
D19	Ago
D20	Alb (100 Merc)
21-24	Alb (100 Merc)
25-29	FF 19
30-39	Ago
40	Alb
41	FF 11
42	Lohner (Austrian designed machine)
43	Curtiss F
44	Sopwith 'Batboat'
45	AEG FB
46	Alb 'Wahl' initially then no given to Oertz
41-46	were all types of flying boats under test by the German Navy at the beginning of the war.
47	Ru DD
49-51	Ru DD
52-56	Alb (150 Bz)
57-58	Br W
59-61	Go (150 Bz)
62	FF 27
63	Oertz W 4
64	Ru DD
65-69	Ago (150 ARG)
71-72	Br W
73	Union
74	Alb (150 Bz)
75	Oertz W 4
76-85	FF 19
86-90	Ru 4B11
91-100	FF 29A
101-110	Ru 4B12
111	Alb (100 Merc)
113-114	Alb (100 Merc)
115	Ago Clw
116	Br AE
117	FF 34 (also FF 44)
118	Go WD 5
119	Go WD 7
120	Go Ursinus UWD
122	Alb (100 Merc)
171	Alb (120 Merc)
187	Curtiss
201-220	FF 29
221-230	Alb K 351
231-235	Br W
236-240	Go WD 2
241-253	Ru 4B12
254-258	Go WD 2
259	Go WD 3
260-272	Br W (160 Bz)
273	Br W (160 Mb)
274-275	FF 31
276-280	Oertz W 5
281	Oertz 'Flugschoner'
282-283	Trav F 1
284	Trav (160 Merc)
285-289	Go WD 1
290-296	FF 29
300	FF 35
401-403	Wilh (100 Marc)
404-405	Danzig (160 Merc)
406-410	FF 29
411-415	FF 29A
416-421	FF 33A
422-423	Br W
424	Go WD 2
426	FF 33
432	Alb (100 Merc)

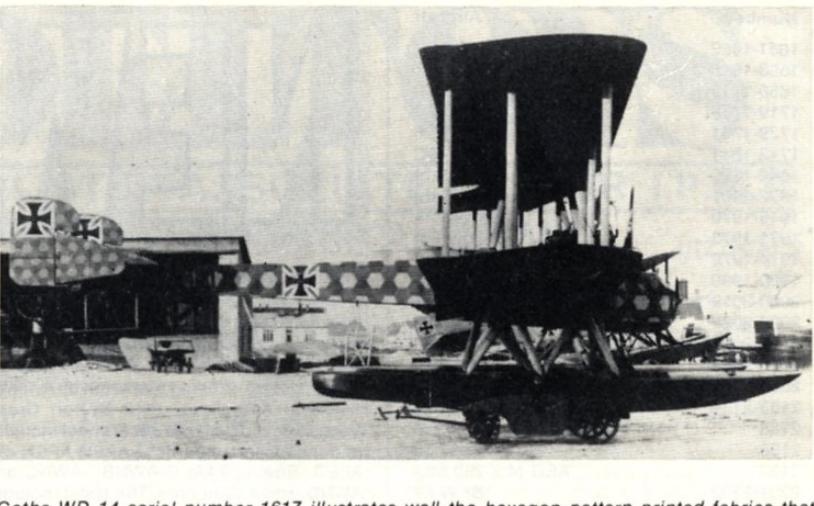


One of the most famous serial numbers in the German Navy, 841. This Friedrichshafen FF 33 E was carried by the German raider Wolf and was partly responsible for the success of that ship. Seen here are the crew, Oberflugmeister der See Paul Fabeck (in cockpit) and Leutnant zur See d Res M. A. Stein (standing). The outline around the cross is not usual and the machine displays well the overall 'white' finish of German seaplanes during the first three years of the war. The colour was not white but pale greyish cream as the German Army machines of the period. Photo taken 1917.

Number	Aircraft	Number	Aircraft
433-435	Alb (cancelled)	601-608	Br NW
436-440	Ru 4B12	609-618	Sab SF 3
441-442	Ru (150 Bz)	619	Sab SF 3
443-445	LVG (160 Merc)	620-624	Br GW
446-447	Alb K 361	625-632	Br GNW
450	Alb W 2	633-637	FF 33E
451-455	FF 33	638-642	FF 33H
456-460	FF 33B	643-645	FF 39
461-462	Wilh (150 Bz)	646-650	Br GW
463-466	Kiel (150 Bz)	651-658	Br GNW
467-470	Danzig (150 Bz)	659-663	FF 33E
471-473	FF 33E	664-668	FF 33H
474-475	Oertz W 7	669	FF 40
476	Go WD 8	670-676	Go WD 7
477	Br W (160 Merc)	677	Trav F 2
478-483	FF 33E	678	FF 41A
484	Br W (150 Bz)	679	Go WD 11
485-489	Br NW	680-684	FF 33E
490	Sab SF 1	685-689	FF 33H
491-508	FF 33E	690-694	FF 33E
509	LFG (150 Bz)	695-699	FF 33H
510	FF 33E	700-704	Br GW
511-516	Br FB	705-714	Sab SF 2 (built by LFG)
517-526	Br NW	715-724	FF 33E
527	Alb W 3	725-729	FF 33E
528	Br GW	730-734	FF 33H
529-533	FF 33E	735	FF (2X 220 Bz)
534-538	FF 33F	736-740	FF 33E
539	Ago Clw	741-745	FF 33H
541-550	FF 33E	746	Br GDW
552	Alb BI with floats	747	Alb W 4
553-562	FF 33E	748	Br KDW
563-570	Br NW	749	FF 43
571	Br LW	750	LFG W
572	Go WD 9	751	Ru 6B1
573-577	Go WD 2	752-781	Br NW (built by Gotha)
580-585	Sab SF 2	783-784	Br KDW
586	Ago Clw	785-786	Alb W 4
587	FF 39	787-788	Ru 6B1
588-590	Br KW	789-790	FF (built by LFG)
591-595	FF 33E	791-800	Sab (built by LVG)
596-600	FF 33H	801	Go WD 14a

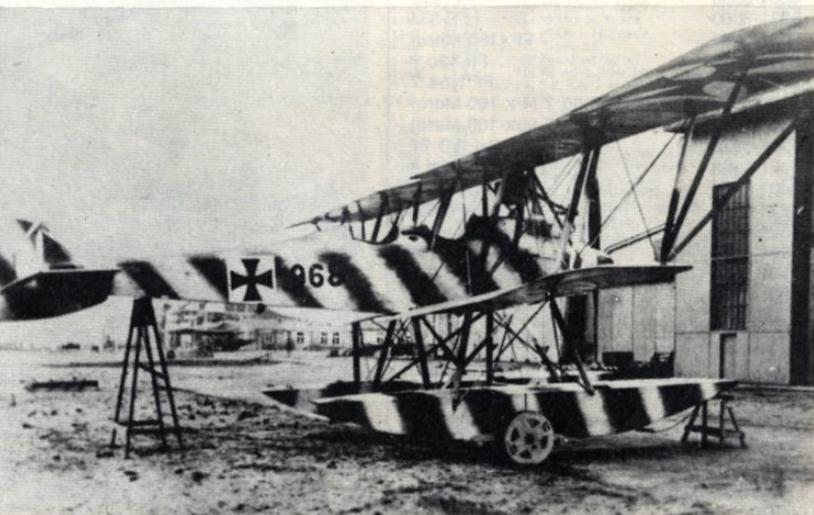
AIRFIX magazine

Number	Aircraft
802-811	FF 33E
812-821	FF 33H
822-841	FF 33E
842-843	Go WD 15
844	Trav
845-849	Alb W 5
850-889	FF 33E
890-899	Ru 6B1
900	Sab SF 4
901	Sab SF 4 (triplane)
902-911	Alb W 4
912-913	Br KDW
914-921	Br KWD
922-931	FF 33J
932-941	FF 33L
943	LFG W 16
944	Go WD 12
945	Wilh W 9
946	Br CC
947	Wilh (220 Merc)
948-967	Alb W 4
968-987	Sab SF 5
988-990	Br W 11
991-995	Go WD 11
996-1000	FF 41A
1001-1010	FF 33L
1011-1016	Br W 12
1017-1036	Sab (built by LVG)
1037-1061	Ru 6B1
1062-1066	Ru 6BII
1067-1076	Br KDW
1077-1079	Br W 16
1080-1084	Br GW
1085-1094	FF 33L
1095-1104	FF 33E
1105-1106	Danzig (150 Bz)
1107-1116	Alb W 4
1117-1126	FF 33L
1127-1136	FF 39
1137-1146	Br CC
1147-1156	Trav F 2
1157	Oertz W 8
1158-1177	FF 33L
1178-1187	Br W 12
1188-1207	Ru 6BII
1208-1210	FF 41A
1211-1213	Go WD 11
1214-1223	Sab (built by LVG)
1224-1233	Sab SF 5



Gotha WD 14 serial number 1617 illustrates well the hexagon pattern printed fabrics that came into use in the Navy at the beginning of 1917. An order dated April 3 1917 specified that 'the top side of all surfaces to be three colours in 6-sided figures, grey-blue, grey-brown and grey-violet. All side surfaces not seen from the top are to be painted grey-blue. All under surfaces, light grey, but wing covering to remain natural colour'. It will be seen that this Gotha does not (when the photo was taken) comply with that order. However, the sides of the fuselage may have been painted later.

Number	Aircraft	Number	Aircraft
1234-1288	FF 33L	1475-1477	Sab SF 7
1289-1298	FF 33J	1484-1503	Alb W 4
1299-1301	LTG FD 1 (5D)	1504-1513	Alb W 4
1302-1326	Alb W 4	1514	Sab SF 5
1327-1351	Br CC	1515-1517	Go WD 20
1352-1371	Sab SF 5	1518-1520	LTG FD 1 (5D)
1372-1379	Go WD 11	1521-1535	FF 49 C
1380-1394	Br KDW	1536-1550	FF 49 B
1395-1414	Br W 12	1551-1553	Br W 20
1415-1430	Go WD 14	1554-1573	Br KDW
1431	Do Rs III	1577-1596	FF 33L
1432	Staak L	1597-1606	FF 49C
1433	Do Rs II	1607-1616	FF 49B
1434-1458	Ru 6BII	1617-1628	Go WD 14
1459-1468	Sab SF 5 (built by LFG)	1629-1631	Go (2 x 240 Mb)
1469-1471	Br W 19	1647-1649	Br W 23
1472-1474	FF 48	1650	Danzig (220 Merc)



Sablatnig SF 5 No 968. This machine is interesting not least for its colour scheme. It is not by any means standard and may have been an experiment. The puzzle is, what is the colour of the striping? It might be supposed to have been grey-green as a form of camouflage over the sea, but in view of the pale cream colour base it would hardly be effective. In addition to this, the crude striping is carried under the wing and tail surfaces which might suggest that the colour of the markings was possibly something much brighter such as red; the object being like that of the RNAS flying boats, to attract attention if the machine crashed in the sea. On crashing in water, seaplanes frequently turned over revealing their undersurfaces, hence the marking underneath. Whatever the reason this appears to be the only machine so coloured and was presumably an experiment.

October 1974

Number	Aircraft
1651-1662	Go WD 14
1663-1665	FF 53
1669-1718	FF 49C
1719-1738	Alb W 4
1739-1741	Br W 26
1742-1841	FF 49C
1842-1856	FF 49C (built by Sab)
1872-1901	FF 49C (built by Sab)
1946-1970	Go WD 14
1971-1973	Trav F 4
1974-1979	Trav F 2
1980-1999	FF 33E
2000-2019	Br W 12
2020-2022	Sab SF 8
2023-2052	Br W 12
2053-2092	FF 49C
2093-2132	Br W 12
2133-2134	Go WD 22
2135	Trav F 4
2138	Br W 18
2139*	AEG (4 x 260 Mb)
2201-2202	Br W 27
2203-2206	Br W 29
2207-2216	Br W 19
2217-2236	Br W 12
2237	Br W 19
2238-2257	Br W 19
2258	Br W 25
2259-2278	Br W 19
2282-2284	Br W 32
2285-2286	Br W 32
2287-2300	Br W 29
2301-2302	Br (3 x 160 Merc)
2303-2304	Br (model for flying boat)
2501-2536	Br W 29
2537	Br W 19
2538-2540	Br W 33
2541-2542	Br W 33? (300 BuS)
2543	Br W 33
2544-2563	Br W 33? (260 Mb)
2564-2587	Br W 29
2588-2589	Br W 29?
2590-2592	Br (monoplane for U-boat, 110 Le Rhone)
2593-2643	Br W 29?
2653-2675	Br W 29?
2683-2684	Br W 33?
2726	Br W 33?
2727	Br W 34
3001-3030	FF 33S
3031-3060	FF 33J
3061-3063	FF (160 Merc)
3064-3083	FF 49c?
3145-3148	FF type?
3301-3302	FF 60? (4 x 160 Merc)
3303	FF 60? (4 x 160 Merc)
4326-4328	Go WD 27
5001-5003	Alb W 8
6001-6030	Sab SF 8
6031-6050	Sab (200 Bz)
6521-6540	FF 49C (built by LFG)
7001-7030	Trav F 4
7501-7503	Junk CLS-1 (195 Bz)
7801-7803	Junk (2 x 260 Merc)
8301-8302	Staak (4 x 260 Merc)
8303-8306	Staak (4 x 260 Merc)
8307	Staak (4 x 500 Merc)
8502	Do Cs I
8801-8802	Do Rs IV
8803-8804	Do (4 x 600 Mb)
9301	AEG (4 x 260 Mb)
9302-9303	AEG (4 x 260 Mb)

\*This particular aircraft was re-numbered to 9301.

# NEW kits and models

## British Airways decals

A NEW SET of British Airways decals, designed specifically to go with the Airfix range of 1:144 scale 'Skyking' airliners (which will not include BA markings for some months), is being marketed by Aviation Historical Associates, of 2 Burton Cross, Wool, Dorset. The large decal sheet includes markings for Vanguards G-APEH-APEN and -APER, Boeing 747s G-AWNB, -AWNC and -AWND, and a Concorde. The sheet includes the distinctive fin markings, British Airways logos, the old BOAC symbol, and an assortment of alphabets printed in the BA blue enabling modellers to make up their own registration numbers from aircraft actually seen. The sheet is very large and will be extremely useful to all civil aviation enthusiasts, especially at the attractive price of 50p plus 15p postage from the above address.

the younger modeller and even the experienced will find very little to improve in the way of detailing.

The design of track and fixing is particularly inspired and needs neither heat welding, stitching nor cementing — just slip one end through and twist. There is, however, just one criticism of the tracks in that they are too stiff, but a spot of Bostik, or similar, holds the road wheels down and prevents the tank from looking airborne.

Transfers and colour details for Fireflies of the 2nd Battalion Coldstream Guards or the 2nd Fife and Forfar Yeomanry are included and as a final, and yet another imaginative touch, a diorama base of a blown up bridge pier on which to display the finished model. Full marks to Matchbox for this one and we look forward to the others in the series.

## Tamiya Sdkfz 232

THE ANGULAR and ungainly-looking German Sdkfz 232 armoured car fitted with a frame radio aerial has been a popular subject for conversion enthusiasts for a long time, but now Tamiya have come to the rescue of the less-gifted amongst us with a superlative kit of the vehicle in 1:35 scale.

Moulded as crisply as we have come to expect from this firm in dark grey plastic, the kit contains a multiplicity of component parts down to individual hinges for the turret hatches. The transmission and suspen-

Continued on page 114

## Sherman Firefly

MODELLERS interested in 1:76 scale military vehicles will have already been scanning through the Matchbox catalogue with mouth-watering expectancy, for of the ten kits promised, only the Panther G is duplicated in other manufacturers' lists.

The first received for review is the Sherman Firefly and the quality of detail and accuracy — at the price — augurs well for the future releases. Fit of parts is first class with virtually no flash or blemishes to clean up. Of simple design, no problems exist for



AIRFIX magazine

# MODEL TOYS

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1/72 SCALE

All listed sets available:  
 1: BAC Lightning Mk. 1A, 2 and 6 (six alternatives in RAF service).  
 2: F-4 Phantom II, FMA-531, USMC; 497th TFS, USAF and 767 Sqn., RN.  
 3: N.A. F-105D Super Sabre (four alternatives in USAF service).  
 4: U.S. Navy F4U-1A Corsair, VF-17; SB2C-3 Helldiver, VB-7; OS2U-3 Kingfisher.  
 5: RAF Hunter F.6, 14 Sqn.; Phantom FGR2, 6 Sqn.; Meteor F.4, 63 Sqn., and Harrier GR.1 Sqn.

6: USAF-S.E. Asia (2): F-4E Phantom, 347FS, 288TFW, Cessna 02A 23 TASS, AC-47, 432TRW, and USM-10A Bronco, HLM-267.

7: T-33, RCAC: F-35 Draken, 725 Sqn., Danish Air Force; Mosquito FB.VI, 4 Sqn., RNZAF, Skyhawk 805 Sqn., RAN, and A-4K squadron markings for 75 Sqn., RNZAF.

8: Royal Navy—Post War: (Gannet 4 COD, Sea Hawk F.1, 898 Sqn., Wessex Mk. I, Ark Royal, and Avenger 6, 831 Sqn.).

9: West German Air Force and Navy (RF-4 Phantom, AG51 or 52); F-84F Thunderstreak, Jabo 33; RF-84F Thunderstreak, Sea King Mk. 41.

10: H.S. Buccaneer S.2's, 809 Sqn., F.A.A.; NF-5A Freedom Fighter, 314 or 315 Sqn., Dutch Air Force; L-39A Beaver, VA-64; AD-2 Skraider, VA-65.

11: F-104 Starfighter 460th FIS, USAF.

12: Phantom FGR.2, 17 Sqn., RAF; F-104G, Belgian A.F. and USAF TAC Badges.

13: USM-10A Corsair, VMA-513, US Navy A-7E Corsair, VA-113 and F-4B Phantom VF-111.

14: USAF-S.E. Asia (2): F-4E Phantom, 347FS, 288TFW, Cessna 02A 23 TASS, AC-47, 432TRW, and USM-10A Bronco, HLM-267.

15: T-33, RCAC: F-35 Draken, 725 Sqn., Danish Air Force; Mosquito FB.VI, 4 Sqn., RNZAF, Skyhawk 805 Sqn., RAN, and A-4K squadron markings for 75 Sqn., RNZAF.

16: Royal Navy—Post War: (Gannet 4 COD, Sea Hawk F.1, 898 Sqn., Wessex Mk. I, Ark Royal, and Avenger 6, 831 Sqn.).

17: West German Air Force and Navy (RF-4 Phantom, AG51 or 52); F-84F Thunderstreak, Jabo 33; RF-84F Thunderstreak, Sea King Mk. 41.

18: H.S. Buccaneer S.2's, 809 Sqn., F.A.A.; NF-5A Freedom Fighter, 314 or 315 Sqn., Dutch Air Force; L-39A Beaver, VA-64; AD-2 Skraider, VA-65.

19: F-104 Starfighter 460th FIS, USAF.

20: Phantom FGR.2, 17 Sqn., RAF; F-104G, Belgian A.F. and USAF TAC Badges.

21: A-4E Skyhawk, VMA-513, US Navy A-7E Corsair, VA-113 and F-4B Phantom VF-111.

22: A-7D Corsair, 356 TFS, 354 TFW, and F-4F 355 TFW, with alternative decals for 357 TFS, 355 TFW, T-33A, 50 TFW, and F-86A Sabre, 116 FIS.

23: Phantom F.G.1, 43 Sqn., Harrier G.R.1A, 3 Sqn., Lightning F.2A, 92 Sqn., All RAF.

24: F-104 Starfighter 421 Sqn., C.A.F.

25: RAF Hunter F.6, 79 Sqn., Phantom F.G.R.2, 41 Sqn., Sea Venom F.A.W.21 809 Sqn., Sea Venon F.A.W.21 809 Sqn., F.A.A.; Wyvern S.4, 831 Sqn., F.A.A.

'MODELDECAL' style fully illustrated instruction sheet, giving decal locations and full colour scheme details, is included with all Modeldecal decals, and commencing with set No. 17, a selection of photographs is also included.

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sion are particularly well detailed, although care needs to be taken to get the assembly sequence right and a 'dry run' is highly recommended before irrevocably cementing any of these parts in place.

Hull and turret are meticulously detailed, but do note that the commander figure has to be painted and installed in the turret before the hull and radio aerial are in place. A large variety of accessories, such as kitbags, steel helmets and even a bucket are provided, to be hung all over the hull and mudguards so as to give the finished model a typically 'cluttered' appearance.

Decals are provided for the 1st or 3rd Panzer Divisions during the invasion of France, the 4th and Grossdeutschland divisions in Russia, 15th in North Africa and Adolf Hitler Brigade in the Balkans, making this kit extremely versatile and a very welcome addition to the popular 1:35 scale armour available. Price is £2.99 and the kit is imported by Richard Kohnstam Limited, who supplied our review sample.

### Monogram Do335

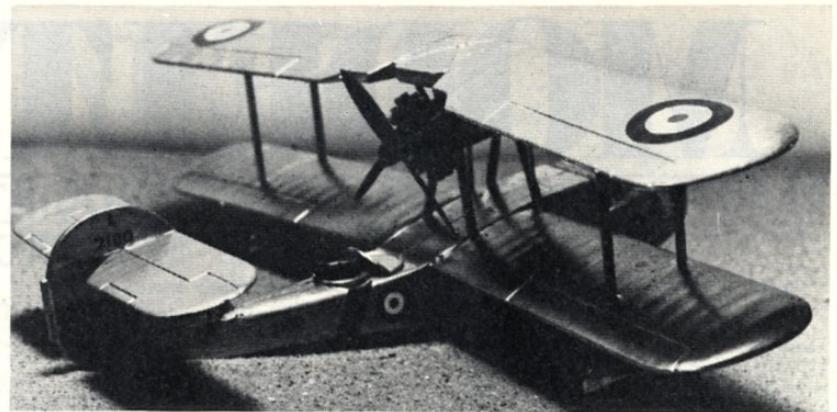
ANOTHER VERY strange-looking product of the Second World War was Dornier's 'push-me pull-you' Do335, which would have become the fastest piston-engine fighter ever built had the end of the war not curtailed its introduction. Constructed around two Daimler Benz 603 engines, one in the nose in a conventional 'puller' configuration, the second in the rear fuselage driving a 'pusher' prop at the tail, the aircraft featured many advanced details, including at least one machine fitted with an ejector seat.

The Monogram kit is to 1:48 scale and costs £1.75 from Ren-Models of 63 Fitzroy Street, Cambridge. Crisply moulded in dark green polystyrene with excellent surface detail and minimal flash, this is not a difficult model to assemble so long as you take care in reading the instructions to ensure you do not get parts mixed; components being provided for either a single-seat Do335 A-0 or a twin stepped-cockpit V-10 version. Cockpit detailing is truly excellent, and a nice touch that other manufacturers would do well to emulate is the inclusion of cockpit painting details on the instruction sheet.

The two DB 603 engines are included, moulded integrally with the fuselage halves unfortunately, and although the basic outline of these appears to be correct, they would benefit from super-detailing.

Two figures are supplied with the kit, a mechanic standing on the wing and leaning into the cockpit, and an armourer carrying a belt of machine-gun ammunition round his neck; both a little crude, unfortunately.

Cockpit transparencies are very clear but rather thick, a fault which shows up most if they are hinged open on the model. They could, however, be replaced by new transparencies home-moulded from transparent acetate sheet, using the kit cockpit components as masters from which to make a mould. Similarly, the radar aerials on the V-10 version could be improved by replacing parts with stretched sprue.



Matchbox Walrus.

The suggested painting schemes are fictitious, as Monogram admit in the instructions, and depict two machines as they might have been had the Do335 gone into full production. We have been unable to find an authentic colour scheme for a V-10, but A-02 and A-05 (102 and 105) were in black green/dark green green/blue as suggested. The only markings discernible on them, however, are the upper fin numbers and swastikas, and the fuselage and wing crosses.

The kit decals are attractively printed in matt, but unfortunately have a very high gloss carrier film which must be trimmed away before application. All in all though an unusual kit of a very unusual aeroplane, well designed and attractively priced. Good value.

### Matchbox Walrus

'NICE ONE, MATCHBOX' — pity about the three colours of plastic though (yellow, white and dark blue/grey). The 'Shagbat', ugly duckling sister of the Spitfire, must nevertheless have been a welcome sight to many pilots of the latter when shot down in the Channel. Its work as a rescue aircraft is legendary and this antiquated-looking biplane worked hard throughout the Second World War.

An excellent replica can be built from this new Matchbox kit which is finely detailed, the engraving on the wing surfaces being nicely subdued in comparison with some of their other kits. Parts fit well and the design of the engine pod struts ensures easy assembly of these parts. Alignment of the top wing surfaces is no more difficult than in any other biplane model.

Transfers are provided for an all-silver machine of HMS *Sheffield* circa 1938 and for a 283 Squadron aircraft in Italy in 1944. A good buy even at the new price of 54p for Matchbox 'orange' series kits.

### Frog Jaguar

FOLLOWING CLOSELY on the heels of the Hunter FGA9, Frog timed the release of their kit of the Jaguar to coincide with the full-size aircraft's service debut.

Comparisons of this model and the similar offering from Lesney are inevitable, with the dice finally coming down in favour of the Frog offering purely from the point of view of the finer surface detail and decal sheet.

The idea of including parts to make either the single- or two-seat version is commendable, and one that the IPMS has pleaded for over a number of years. Maybe some notice has been taken of previous reviews, or is this just wishful thinking?

The outline shape of both versions is accurate with the characteristic shape of the Jaguar's area ruled fuselage being nicely captured by the toolmaker. Cockpit detail is a little sparse and, as with the Hunter, criticism must be levelled at the ejector seats. A quick survey taken over 20 children between the ages of 12 to 15, brought to light that only one ever used the stands supplied in kits, so one is forced to wonder if this is really essential, and could it not be dropped in exchange for, say, better ejector seats? We shall now be bombarded with letters from modellers who find the stand essential for some purpose or other!

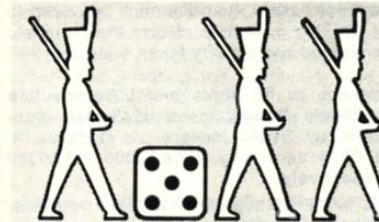
Back to the Jaguar. Markings are provided for XX136, the RAF's first production trainer, and for the single-seat version the CEAM markings are included. A feature of the decals is the number of stencil markings that are beginning to creep on to the Frog sheets, a move that will be applauded in all circles.

The fitting of the alternative nose portions has been particularly well thought-out, and the inclusion of the fin on one fuselage half only produces an almost scale thickness.

We shall make no mention of 'Mutt and Jeff' who have put in yet another appearance trying to pass off as Jaguar aircraze. Try again boys, you're not even halfway there yet. But overall this is a fine addition to the range and at 60p is good value for money.

### Bellona: German trench

LATEST RELEASE IN the Bellona range of vac-formed battlefield accessories is a First World War German trench. Measuring nearly 12 by 6 inches, and moulded in light tan plastic, the model depicts a length of trench with a dug-out bunker at one end, firing platform and steps. Retailing at 20p this latest release is ideal for diorama work although, in common with most other products of this sort, is not really suitable for wargaming since it is virtually impossible to stand figures upright on it.



## news for the wargamer

### Strategy and tactics

TWO ISSUES OF this invaluable magazine recently received for review are numbers 25 and 35, the former of which has obviously been out for a long time but never reviewed here.

Number 25 will have an immediate appeal to wargamers specialising in the ancient period, since it includes a main feature article on the Roman Army from 753BC to 1453AD plus the tactical game 'Centurion'. The article is a potted account of the development, organisation, equipment and troop types in the Roman Army and is necessarily skimpy since such a vast amount of ground is being covered; this is especially true of the later period, which is rather glossed over. However, as an introduction to the subject it is a useful article and will be especially valuable to beginners just trying to organise a Roman army.

However, the second article included in this issue will probably have a wider appeal, since it is a well-documented and useful account of Napoleon's invasion of Russia in 1812, including the most detailed map and account of the battle of Smolensk your reviewer has ever seen.

Both of these copies of S&T are available from Simulations Publications UK, PO Box 46, Altrincham, Cheshire WA15 6PE, at £3.99 each. And incidentally, it is only fair to warn readers that from the end of this year S&T will be separating their back numbers of the magazines from the games, selling each individually, with a consequent fairly drastic price increase for anyone who wants both a magazine and game: so now is the time to order any back issues you specially want!

### Eagles

THIS IS AN S&T-type game produced by the American Game Designers' Workshop and distributed in Britain by Simulations Publications UK, PO Box 46, Altrincham, Cheshire WA15 6PE, price £4.25.

The rules include instructions for setting up no less than 17 different battle scenarios ranging from 106BC to 552AD, and including one which will be especially popular with anyone who has seen the film *Spartacus*.

The final feature in this issue of S&T is an article on the organisation of German ground forces on the Eastern Front during the Second World War which includes a short narrative account together with a pull-out organisation sheet showing in diagrammatic form the composition and equipment of German units; this will be especially valuable to any wargamer specialising in this period, and the magazine is worth purchasing for this alone, in fact.

S&T No 35 is sub-titled 'Year of the Rat — Vietnam 1972', and the main feature article and wargame included with this issue are both concerned with Vietnam. The article is well-written and researched, although perhaps somewhat subjective in places (understandable in an American magazine),

campaign took place, and playing counters are provided for the Romans, auxiliaries and allies, plus 12 German tribes. The three captured Eagles are held in German temples at the beginning of the game and may only be moved under special circumstances.

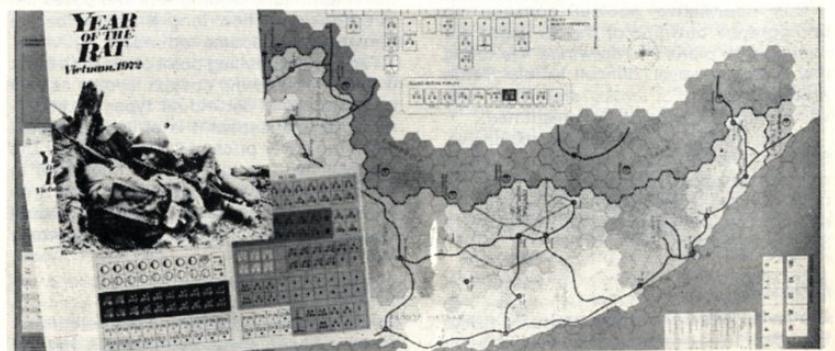
A novel feature of this game is that Arminius has to try to mobilise the various tribes, apart from four which are permanently on a war footing, before he can fight back effectively. Apart from this play is fairly standard, with all the usual terrain restrictions, stacking restrictions, combat odds tables etc. However, it is an unusual game in that the objective is something specific rather than a simple matter of knocking hell out of your opponent, and will probably appeal to 'ancient' enthusiasts seeking a change, even at this rather high price.

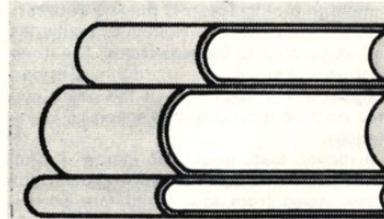
**The Ancient War Game**, by Charles Grant. A&C Black Ltd, 4-6 Soho Square, London W1V 6AD. Price £3.50.

AS THE FIRST book to cover the very popular ancient period of wargaming, Charles Grant's latest epic will undoubtedly attract a wide readership. It begins with some introductory chapters explaining the simple and very playable rules the author uses, then goes on to discuss the armies, weapons and tactics of ancient Egypt, Assyria, Persia, Macedonia, Greece, Rome, Carthage and the barbarians, with four chapters concentrated on particular battles and their re-enactment on the wargames table.

Because — as the author freely admits — the span of time and variety of 'armies' covered is so vast, there has not been room to go into any great depth on any particular subject: for example, only seven pages are devoted to Rome and Carthage together. As a result, the same comments as with Donald Featherstone's book reviewed last month apply. This volume is really no more than a primer, and while useful for anyone wishing to get started in ancient wargaming, leaves a great deal unanswered.

More importantly, since the Wargames Research Group rules are now used almost universally as a standard, and most players beginning in this period will graduate to these rules in very short order, to give an outline set of rules in this book which bear little relation to the WRG ones seems rather pointless. For all that, the book will undoubtedly be popular, and if the ancient period appeals to you you should certainly have a look at a copy.





## books for modellers

### Modelling

**Airfix Magazine Annual for modellers 4**, edited by Bruce Quarrie. Patrick Stephens Ltd, Bar Hill, Cambridge CB3 8EL, in association with Airfix Products Ltd. **Price £1.60**.

AIRFIX MAGAZINE Annual is becoming something of an institution in the modelling world. Launched in 1971, it regularly provides 96 pages of practical modelling advice, scale plans and conversion ideas, reference articles on colour schemes and markings, photographs of real aircraft, tanks and ships, and their model equivalents.

The latest volume continues the tradition with 16 profusely illustrated articles, all written by expert *Airfix Magazine* contributors, on a variety of subjects from modelling ships in bottles to a conversion of the Airfix 54mm Highlander to a Samurai warrior.

A full list of the contents is given on page 132 of this issue, but highlights of the 1974 annual include a 1:24 scale Mustang conversion, two 1:76 scale AFV conversions, two 1:32 scale car conversions, two 1:72 scale aircraft conversions, plus much more for all aviation, military, railway and shipping enthusiasts.

Rising printing and paper costs have forced the price of this year's annual up, unfortunately, but in comparison with other current book prices it still represents excellent value for money and will be a welcome addition to any modeller's bookshelf.

**Calling all Spitfires — a scale modeller's guide to the Spitfire in 1:72 scale**, by John R. Beaman, Jr. G. W. Jones Bros Ltd, 56 Turnham Green Terrace, Chiswick, London W4. **Price 95p (plus 10p postage)**.

THERE ARE OVER twenty publications in print about the Spitfire. This one covers an aspect previously not tackled. It gives detailed instructions for modelling 1:72 scale replicas of most Spitfire and Seafire variants using kits currently on the market.

This informative booklet contains no photographs but nine of the 35 pages are packed with plans and drawings. We found that it was, however, difficult to interpret in places because of cross-references, and some minor details can be questioned.

At 95p the booklet is relatively expensive. Some of the modelling techniques necessary are advanced, and because of this the booklet is really only worthwhile for experienced modellers wanting to build a variety of Spitfire variants.

### Aviation

**Profile No 259, General Dynamics F-111A to F & FB-111A**, by Kurt H. Miska. Profile Publications Ltd, Coburg House, Sheet Street, Windsor, Berks. **Price 55p**.

cations Ltd, Coburg House, Sheet Street, Windsor, Berks. **Price 55p**.

DOGGED BY PROBLEMS, both real and invented by the 'anti-F-111 brigade', the first variable geometry (swing-wing) fighter, the General Dynamics F-111, has its history well covered in this Profile by author Kurt Miska.

This extremely versatile and efficient aeroplane's development, during which it was hounded on all sides by politicians and so-called 'experts', is fully detailed and leads the reader into an interesting account of its service life. A life in which it has more than vindicated the faith shown in the design not only by General Dynamics but also all those who stood by the aircraft during thick and thin. The Profile also includes an interesting account of a USAF pilot who graphically describes his feelings when he was told that his F100 Super Sabre was to be replaced by the F-111, and how he was converted to the faith.

As usual with this type of publication, there are useful tables, photographs and coloured artwork all of which help the modeller to produce an accurate version of this splendid aeroplane.

**Instruments of Flight**, by Mervyn Siberry. David & Charles, South Devon House, Newton Abbot, Devon. **Price £2.75**.

THE HISTORY OF how aircraft instruments have been developed, may not seem to be a particularly exciting story, but Mervyn Siberry has written an enjoyable and readable account of this fascinating aspect of aviation that is often taken too much for granted or not even thought about by the average aviation enthusiast.

These range from armoured cars and such well-known types as the Kubelwagen to searchlight, maintenance, ambulance, telephone, radio and photographic trucks, airfield servicing and refuelling vehicles, trailers, snowploughs and other little-known machines.

The book is prefaced by a modern introduction explaining the development and nomenclature of German wheeled transport, which includes some very useful scale drawings, most of which appear to be around 1:76 scale.

Although the photographic reproduction leaves a lot to be desired in many instances this is still an extremely useful book and excellent value for money with its 128 large-format pages.

**L'Aeronautica Nazionale Repubblicana** — An extremely detailed history, as far as studies of our Italian/English dictionary will allow, this book deals, chapter by chapter, with all aspects of the ANR. These include details of foreign aircraft acquired, events up to and after the Armistice, Luftwaffe in Italy, Allied forces in the Mediterranean, Government re-organisation, structure of

increased costs the price must be raised to £1.50. This price rise affects the complete series and has already taken effect.

**Junkers Ju 87 Stuka and L'Aeronautica Nazionale Repubblicana 1943-1945**. Published by STEM Mucchi, via Tabboni 4, 41100 Modena, Italy. **Price £4000 and £9500 respectively**.

THE MORE we see of these Italian publications the more we regret our inability to understand fully the language in which they are written. Our struggles with an Italian/English dictionary would be helped if the publishers would consider at least repeating the photo captions in English and possibly would help their international sales if German and French captions also could be incorporated. Perhaps the cost of such a small addition would not be too prohibitive and would certainly aid our understanding.

*Stuka* — after a history of dive bombing and Stuka developments, use of the Ju 87 in the various theatres in which it operated is dealt with, chapter by chapter. The book is well illustrated with photographs, colour plates and drawings of the different models of Ju 87.

### Military

**Directory of Wheeled Vehicles of the Wehrmacht**, edited by Chris Ellis. Ducimus Books Ltd, De Worde House, 283 Lonsdale Road, Barnes, London SW13. **Price £3.60**.

A DIFFERENT imprint but the same COE and another valuable offering for Second World War military enthusiasts. Produced by a method which is becoming increasingly popular with a number of publishers in these days of rapidly escalating book prices, the bulk of this volume is a page-for-page facsimile of an American wartime intelligence manual, each of which includes a photograph and data table on a particular vehicle.

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command, Aeronautical College, the Allied offensive, bombing techniques, radio and interception techniques, experimental aircraft and installations, Luftwaffe use of Italian aircraft etc. Contains a wealth of interesting photographs but of course the Italian text is the problem for most of us.

**Bellona Military Vehicle Data Numbers 19, 20, 21, and 22**. Model and Allied Publications Ltd, 13-35 Bridge Street, Hemel Hempstead, Herts. **Price 25p each**.

THE NEW FOUR-VIEW drawings in these later Vehicle Data booklets increase their usefulness as far as the military modeller is concerned. They now show front, rear and both offside and nearside views. If the top view is required when modelling any of these vehicles it can easily be drafted from the views provided. Although simplified somewhat, the drawings are all reasonably accurate and quite adequate for the military modeller. As the vehicles covered in these four booklets are a mixture of Second World War and post-war types, an approximate date of uses for later vehicles has been added as a guide.

### Data Number 19

Albion WD66, 5-ton 6 x 6 GS (1955), DAF YA-126 4 x 4 Weapons Carrier (1952 etc), Bedford QLR 4 x 4 Wireless, Ford WOT-16 x 4 VHF Transmitter, ERF C14 4 x 2 6-ton GS, Humber FWD 4 x 4 BBC Recording Van, Ford FGT 4 x 4 Artillery Tractor, Commer Q4 3-ton 4 x 4 Workshop (post-war), Foden 6E/22 10-ton 6 x 4 GS (post-war — six only supplied).

### Data Number 20

Humber Snipe 8-cwt 4 x 2 FFW, Bedford RL 4-ton 4 x 4 Stores (1952 etc), International 2½-ton 4 x 4 GS (1962 etc), Leyland 19/1E 10-ton 6 x 4 Refueller (post-war — just over 20 supplied), Ford WOT 6 3-ton 4 x 4 Signals, Austin K4/DE Series 2 3-ton 4 x 2 Cargo (1949-55), Thorneycroft 10-ton 6 x 4 Tractor for Semi-Trailer (1965 etc), Bedford MW 15-cwt 4 x 2 Signals, Dodge ½-ton 4 x 4 Panel Delivery.

### Data Number 21

GMC 2½-ton 6 x 6 Cargo LWB, Douglas Tugmaster 4 x 4 Aircraft Tractor (post-war), Berliet GBC 4-ton 6 x 6 Cargo (1961 etc), Ford WOT 2C 15-cwt 4 x 2 Infantry Truck, Leyland Martian 10-ton 6 x 6 Medium Tractor (1950), Scania-Vabis LA82 6 x 6 Artillery Tractor (1960), Karrier CK6 3-ton 6 x 4 Folding Boat Equipment, Austin K6 3-ton 6 x 4 Breakdown Gantry, Shorland 4 x 4 Patrol Car (based on Land Rover).

### Data Number 22

Thorneycroft Amazon 6-ton 6 x 4 Crane, Saviem TP3 1½-ton 4 x 4 Cargo (1971), Zwicky 4 x 2 Runway Sweeper (1960), FWD HAR-14-ton 4 x 4 Cargo, Alfa Romeo CM450 3½-ton 4 x 4 Cargo (post-war), AEC Mammoth-Major Mk 3 6 x 4 Refueller (post-war), Steyr 680M 2½-ton 4 x 4 Cargo (1960), Commer Q2 2-ton 4 x 2 Explosives Van, Volvo TL22 1½-ton 6 x 6 Personnel and Cargo (1956).

Modellers of post-war NATO and UN forces will find some useful prototypes

among these latest Bellona booklets, the only criticism of which is that perhaps it would have been better to have kept the 'moderns' together, with the Second World War types similarly treated, but maybe the publishers are aiming for a better balance. Most of the photographs in all four Data have reproduced well, some excellent, but regrettably there are a few that were just not worth including.

### Small Arms Profile 16, Colt Percussion Revolvers

Profile Publications Ltd, Coburg House, Sheet Street, Windsor, Berks. **Price 55p**.

IN THE USUAL Profile manner the story of the early Colt revolvers is well told and up to the usual high standard. This Profile tells the story of the black powder, cap and ball revolvers that started the line that led to the famous Frontier Colts, though the latter are covered in a later part. All the very early models are in this Profile along with some illustrations of the prototype wooden mock-up so you can see that nothing is lacking in this tale of the most famous of all the pistols that won the West.

### Bellona Military Vehicle Prints, Series 36

Model and Allied Publications Ltd, 13-35 Bridge Street, Hemel Hempstead, Herts. **Price 30p**.

ITALIAN ARMOURED VEHICLES are covered in this Bellona Military Print which follows the usual format. The Lancia 12M armoured car of 1917 vintage is described and illustrated by photographs, section drawing and five-view scale drawings to 1:76 and 1:48 scales. The self-propelled howitzer and Semovente M43, 105/25 and the self-propelled gun M43, 75/34 are similarly covered with four-view scale drawings to 1:76 scale and an additional 1:48 scale drawing of the 105/25. Unfortunately some portions of these drawings had not reproduced very well on the review copy. Still pretty good for only 30p.

### Uniformation prints

THREE RECENT RELEASES in this useful series for Napoleonic modellers and wargamers from Bivouac Books, 25 Earl Street, London EC2, are *French Light Infantry 1812-15*, *French Imperial Guard Infantry 1815* and *Prussian Landwehr 1813-15*. Produced to the usual format, with 13 full-colour uniform drawings, several detail sketches in black and white, and brief notes on the history, organisation and uniforms of the troops depicted. Price of each print is 75p which is not unreasonable by today's standards, although as we have said before one could wish that Bivouac would get away from the major armies and produce some decent reference material on the smaller contingents from allied states on both sides.

### Warships

**Warship Profile No 31, German Schnellboote (E-Boats)**. Profile Publications Ltd, Coburg House, Sheet Street, Windsor, Berks. **Price 70p**.

COVERING THE DEVELOPMENT of the E-boat from the fast motor boats of the First World War to the revised 1928 design when a new type of construction was used, this Profile

### Author's competition winners

WELL OVER two hundred entries were received in the Patrick Stephens Limited Author's Competition, featured in the June, July and August issues of *Airfix Magazine*, and the quantity of first-class ideas made the judges' task an extremely difficult one.

The three prizewinning entries finally decided upon were:

**First** Mr C. F. Noad, of Weybridge, Surrey, who receives £50;

**Second** Mr K. Bordle, of Swindon, Wilts, who receives £30;

**Third** Mr D. W. Stewart of Currie, Midlothian, who receives £20.

Many other entries were extremely good ideas, so even if you haven't won a prize don't give up hope: we shall be contacting a number of other entrants over the course of the next few weeks with a view to turning their ideas into books as well.

And don't forget — even though the competition is now over, Patrick Stephens Limited always welcome good ideas for books on any subject connected with modelling, aviation, military, naval and motoring topics. Please note, however, that preliminary letters of enquiry explaining the nature and scope of the proposed book should be submitted first, not complete manuscripts, and should be sent to: Patrick Stephens Limited, Bar Hill, Cambridge, CB3 8EL. □

achieves the same high standards that have now become the recognised trade mark of this publisher.

The triumphs and defeats of the Second World War help to clear some of the mystery and magic that has always been associated with the term 'E-Boat'. Operational areas of all flotillas are covered in the excellent account of what was one of the most efficient craft in the German Navy's inventory. One interesting fact to emerge is that fewer than 200 of these craft were built yet 100 of them survived the hostilities.

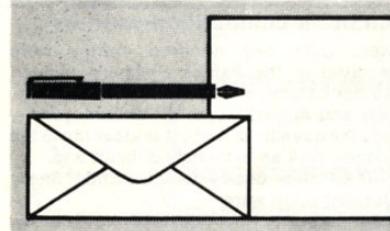
As usual the Profile is well illustrated with a colour centre spread and 30 photographs as well as line drawings and cross-sections of the hull.

The author, Dr H. Hümmlchen, is to be congratulated on his effort and all that remains now is for Airfix to follow their Vosper MTB with an E-Boat in 1:72 scale so that some of the challenging camouflages shown in the Profile can be put to good use.

### Transport

**History of the Hants & Dorset Motor Services Ltd**, by Colin Morris. David & Charles, South Devon House, Newton Abbot, Devon. **Price £4.25**.

ALTHOUGH NOT REALLY a book for modellers at all, this new offering from David & Charles will appeal to all with an interest in commercial motor transport in general and buses in particular. Combining local history and anecdote with details of the vehicles in use in Hampshire and Dorset, their routes and tariffs, this is a fascinating and well written study, and the high price for such a relatively small book will not deter the real enthusiast. The book is illustrated with a large number of black and white photographs together with several line drawings and route maps.



## letters to the editor

### Fleet Air Arm

AFTER RECEIVING the July issue of the magazine rather late I hasten to correct a mistake in the article 'At home with the Fleet Air Arm'. There it states that 737 Squadron provides a 'home' for the Wessex flights based on Leander Class frigates. In fact these ships carry Wasps, the Wessex flights belonging to the County Class destroyers.

**Roger Davies, Marlborough, Wilts.**

### Cross & Cockade

SIXTY YEARS AGO, on August 13 at 8.20am, aviation history was written when a flimsy little BE2a biplane of number 2 Squadron Royal Flying Corps, piloted by Lieutenant H. D. Harvey-Kelly, came down near Amiens, France, the first British aircraft to land on the European Continent after the outbreak of the First World War.

During the following four and a quarter years the world was to witness a greatly accelerated development of this new means of transport and revolutionary method of waging war.

By the end of 1918 the machines and men who flew them had advanced to a degree of sophistication undreamed of in the early days of that fateful month such a short time earlier.

During the years which followed the Great War there was always a considerable interest shown in the part played by aviation during the conflict and many books appeared, some based on fact, some, unfortunately, far from accurate in their portrayal of this historic period.

However, it was not until after the Second World War that aviation enthusiasts in considerable numbers became aware of the need to study and record in greater detail this important aspect of military history whilst it was still possible to obtain first-hand accounts from those who actually served in the air services of the combatant nations.

In 1959 Cross & Cockade, the Society of World War One Aero Historians, was formed in the United States of America, quickly gaining members throughout that continent and later in Great Britain, Europe and many other countries.

Among a small nucleus of members in this country there gradually grew a desire for the establishment of a separate movement, independent of the original body, with its own officers, administration and journal, to record the researches carried out on this side of the Atlantic.

With a membership growing annually, since its inception in 1969, Cross & Cockade Great Britain is proud of the part it is playing in furthering the aims and objects laid down

### Contributions

Letters to the editor selected for publication entitle the senders to each receive a free Airfix plastic construction kit, and the publication of photographs from readers is similarly rewarded. Airfix Products Ltd award the kits on the following scale:

ONE letter or photograph published is rewarded by any kit from Series 1-6 inclusive. For TWO letters or photographs any one kit up to and including Series 9 can be chosen, or alternatively two kits up to Series 6. For THREE contributions the entitlement is one kit up to Series 12 or three kits up to Series 6. Readers can make their choice on the special form which we send out after publication. The kits are supplied direct by Airfix Products Ltd.

Letters to the editor should be addressed to: the Editor, *Airfix Magazine*, Bar Hill, Cambridge, CB3 8EL. If a reply is wanted, a stamped addressed envelope (or International Reply Coupon) should be enclosed. All photographs submitted for consideration should be clearly labelled with the sender's name and address on the back of each.

Opinions expressed by correspondents on this page are their own and do not necessarily reflect the views of the Editor or Airfix Products Ltd.

by its founder members.

Regular meetings are held in London for lectures, discussions and film shows and it is hoped that similar gatherings will be possible in the provinces.

The Society is very fortunate in numbering among its members former servicemen from the Royal Flying Corps, Royal Naval Air Service and Royal Air Force, providing a unique link with the reason for its existence.

Aviation enthusiasts with a special interest in the air war 1914-1918 should contact the Business Manager, Cross & Cockade Great Britain, 17 Cranleigh Court, Cove, Farnborough, Hants GU14 0HE.

### Spitfire corrections

I WOULD LIKE to be the first to point out a couple of errors which appeared in my article on Spitfire/Seafire variants in the August issue of *Airfix Magazine*.

First, the total percentage production of the Seafire Mk II should have read 16.69;

second, the reference to Mk XIII in 'a' of the key to the drawings should have read: Mk XII; third, the first (of the two) descriptions of 'g' is invalid; and fourth, the descriptions of 'l' and 'm' should be reversed.

**Richard Shearer, Welwyn Garden City.**

IN HIS ARTICLE and tables on Spitfire/Seafire variants, Richard Shearer omitted to mention the different styles of wing cannon-

blisters fitted to these aircraft. From a study of photographs, it is apparent that even on aircraft with the same armament, such as the 'C wing' variants, there were at least three different styles of blister, viz:

1 — large blister; located with front on main spar and positioned centrally over both cannon bays (as featured on Airfix kit).

2 — slim-line blister; in similar position to '1' but in line with inboard cannon.

3 — slim-line blister; locates at rear of wing in line with inboard cannon, the rear of the blister about 18 inches from wing trailing edge.

One feature of the Spitfire which I have not seen mentioned in reference works is that two sizes of rudder were fitted to the Mk XIV. The two styles are illustrated in Profile 246, though not mentioned in the text or captions.

**Stan Sarsfield, Ayr.**

### US carbines

IN THE AUGUST issue, under the heading 'Query answered', there is a letter replying to a point raised in John Rixom's article on 'Monty' Humber in the June issue, and I am afraid that the letter contains a mistake in the designations of the US weapons.

The book *Small Arms of the World* (7th Edition), by W. H. B. and J. E. Smith, gives the following designations for the 'Garand' rifle and the US carbine: US Rifle cal. .30 M1 (Garand semi-automatic rifle) — semi-automatic fire; US Carbine cal. .30 M1 — semi-automatic fire; US Carbine cal. .30 M1A1 — semi-automatic fire. With folding stock; US Carbine cal. .30 M2 — selective fire. Semi-automatic or automatic; and US Carbine cal. .30 M3 — as M2 but without rear sight and having an attachment on the receiver for infra-red sniperscope.

Although of similar calibre (.30), these weapons used different ammunition, that for the carbine being less powerful as the weapon was originally intended as a replacement for the pistols carried by specialist troops who would be impeded by a normal rifle.

During the Second World War General Eisenhower presented Field Marshal Montgomery with a US carbine and there is a photograph of the presentation in the Orbis publication 'World War II, No 58', *The Allies Prepare*. The photograph in the June issue shows that 'Monty' took the precaution of carrying such a useful gift.

**R. Maurice Carmichael, Edinburgh.**

### Beau cowlings

THE LATEST ISSUE of *Airfix Magazine*, August 1974, has just arrived, and in these days of escalating costs, I am pleased to note it is still worth every one of its 18p.

I found the cover photo of the Vixen most interesting and hope to see complete details of its finish in a future issue, if possible.

However, the reason for writing on this occasion is in response to a plea by the reviewer of the Matchbox Beaufighter.

A Bristol GA Drawing, No 248160, is quoted, and this seems a good place to start. It is a general arrangement drawing, the purpose of which was to obtain an over-

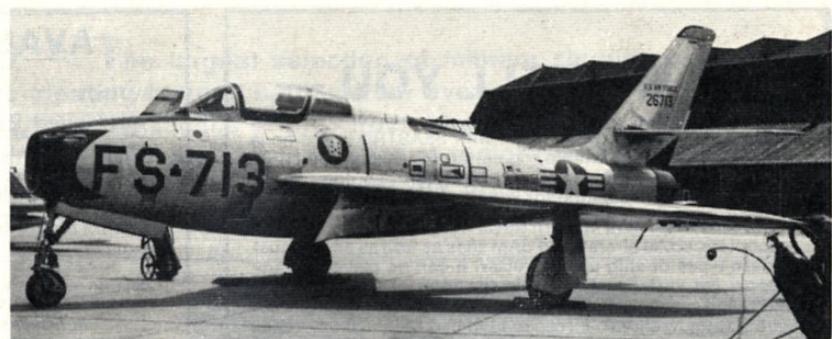
all picture of any modification carried out, the details being drawn out later. The procedure was to take a drawing of the standard machine, erase those parts to be altered, and draw in the new items. Thus the Mk X would be produced from drawings which originally showed the Mk VI, which would in turn be produced from drawings of the Mk 1.

Research into events which occurred at that time enables us to go back one stage further. The drawings for the Mk I were almost certainly produced from drawings which showed the Beaufort, which had Taurus engines, with tapered cowlings.

It is known that the Beaufighter had a new fuselage and new engine mounts. These were the only new items, and therefore it is logical to suppose that these would be the only changes made to the GAs at the time. It was realised that the more powerful engines, which were already in production, would use larger props, this information being incorporated in the drawing so as to determine the smallest amount by which the nose had to be shortened, while still using the original jigs and fixtures.

Having, in the interests of saving time, not done a completely accurate GA, the error was perpetuated up to the time when production ceased, and even beyond, since it put Matchbox in the unusual, and unenviable position of having produced a kit which was below their usual standard.

One can only surmise that the Frog kit, which had the same error, was produced from the same drawing, which leads one to



In his captions to the photos on page 653 of the July issue, Michael Bowyer quite rightly points out how markings can completely change on any individual aircraft within a short space of time. To illustrate the point, and also show that Airfix do indeed have the correct markings in their kit, I enclose a photo of FS-713 taken at the Burtonwood Armed Forces Day, May 19 1956. R. L. Ward, Farnborough.

assume that the Airfix kit came from a drawing which has since disappeared.

Having, I hope, shed some light on this unfortunate affair, how does one go about correcting same. The Airfix Beaufighter engines can be used, if available, but there are better ones on the market.

Both Airfix Stirling and Halifax have Hercules radials which are suitable. The Halifax is probably the better bet, since the rest of the kit can be used to try one's hand at conversions with either vacu-form or

balsa wood to produce one of the Merlin versions.

Finally, note that the props with these engines did not have spinners, a feature of some Mk Is, very few Mk Vs, but most, if not all, Mk Xs. In this case the kit props, providing that the spindles are the same diameter, would have to be used.

**John G. Burgess, Eastwood, Notts.**

NB. We have just heard that Matchbox are to retool their Beaufighter kit so as to obtain the correct cowlings! Ed.

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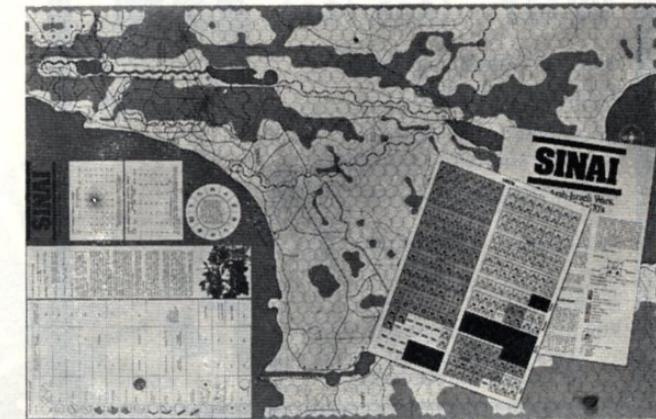
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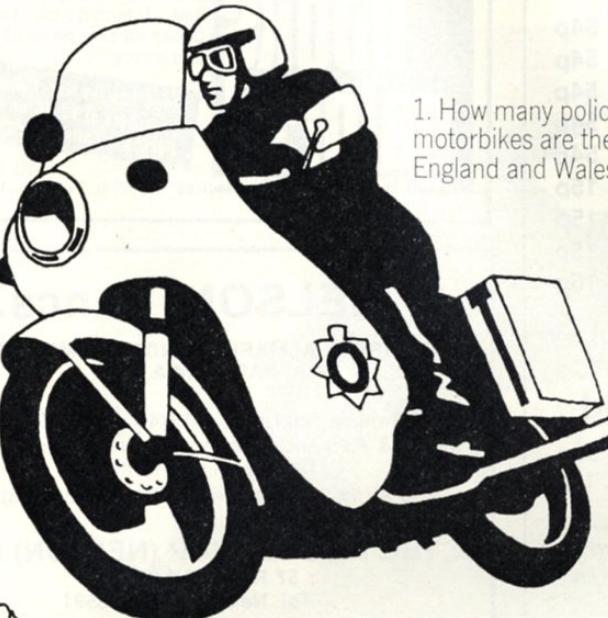
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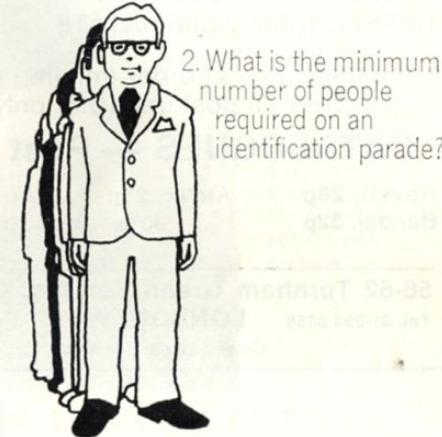
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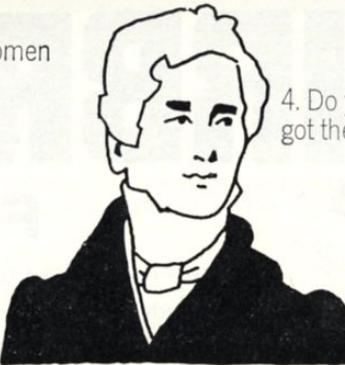
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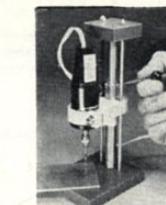
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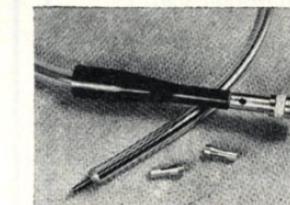
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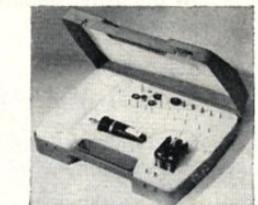
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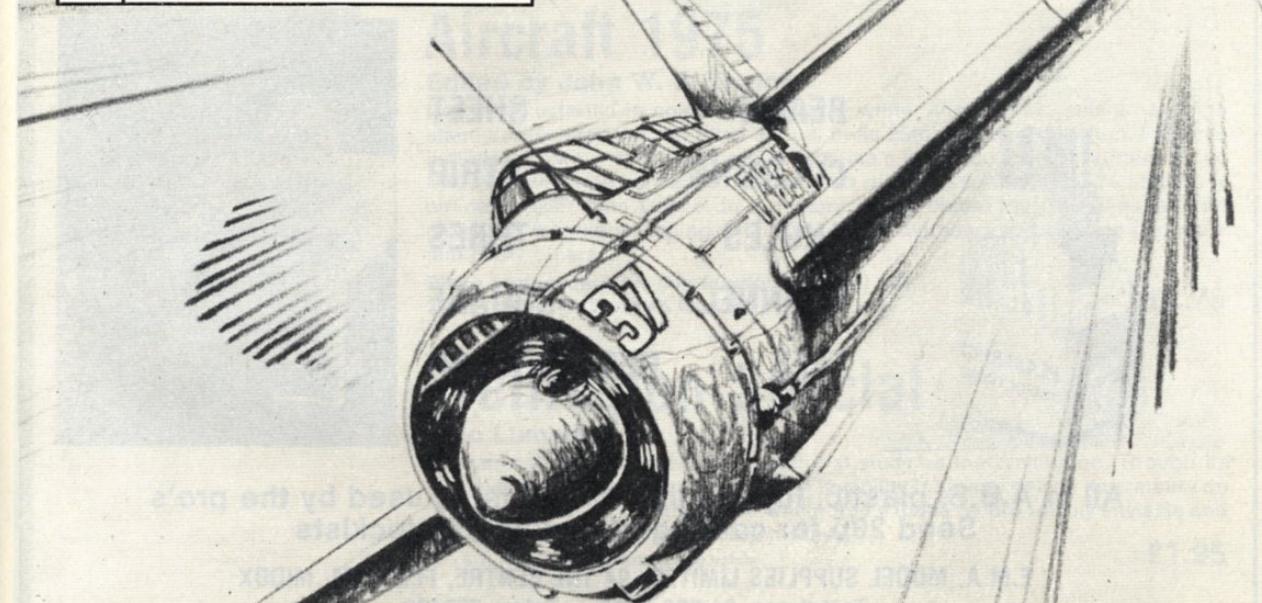
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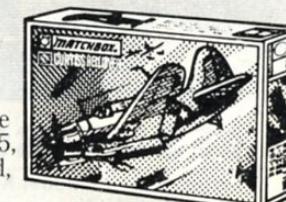


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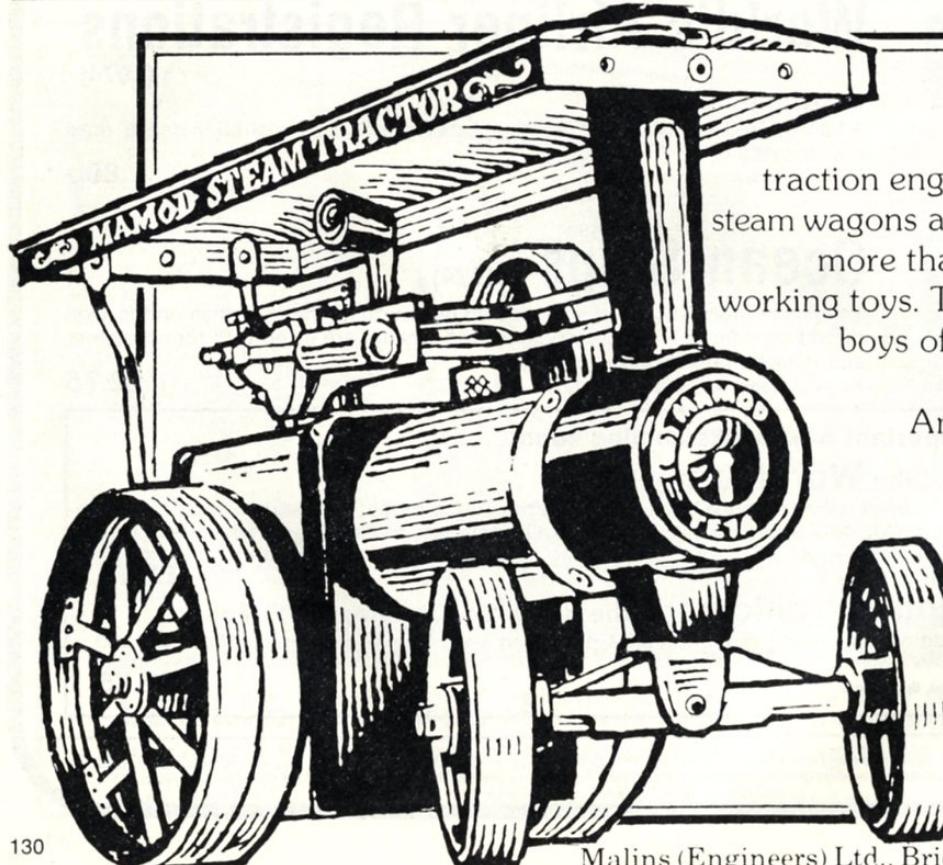
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For aviation enthusiasts the book begins with an account of the Hawker Harrier's current operational status with the RAF and US Marines, including modelling notes of practical value to anyone working in 1:72 or 1:24 scale. This is followed by a feature on American B-29s and B-50s based in Britain between 1948 and 1953, which includes two pages of drawings showing tail fin insignia. Alan W. Hall then gives practical modelling instructions for converting the Airfix Halifax kit into a B Mk II; Bryan Philpott describes a conversion using Airfix He 177 components to produce a 1:72 scale model of the Luftwaffe's wartime jet bomber, the Ju 287; and finally Gerald Scarborough shows how to produce a 1:72 or 1:24 scale model of the Rolls-Royce Dart powered Cavalier Mustang III.

For those who prefer wheels to wings there are two 1:32 scale conversions. First is a model of the Bentley which took part in the 1969 London-Sydney marathon, constructed from the Airfix Bentley kit; while the second model will appeal to military enthusiasts as well, since it is a conversion of Monty's Humber to a wartime wireless truck. There are also two tank conversions for military modellers, the first from the Airfix Churchill kit to the Churchill 3-inch gun carrier; the second showing how to super-detail the Airfix Tiger kit, including all internal components from engine to gun breech.

An unusual project for model soldier enthusiasts is a fine conversion of the Airfix 54mm Highlander to a Japanese Samurai warrior, while on the nautical side there are features on modelling the Airfix Cutty Sark kit in a bottle and scratch-building a canal narrow boat. An attractive little 00 gauge model of a tunnel inspection and repair wagon by Michael Andress, together with the two regular features, Pick of Photopage and Photo Quiz, complete the line-up for this year's Annual.

Throughout its 96 pages, the book is profusely illustrated with photographs of models and the 'real thing', working sketches, scale plans and colour scheme data, making it an invaluable reference source as well as a practical modelling manual for beginners and experienced modellers alike.

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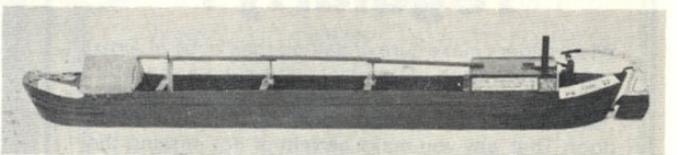


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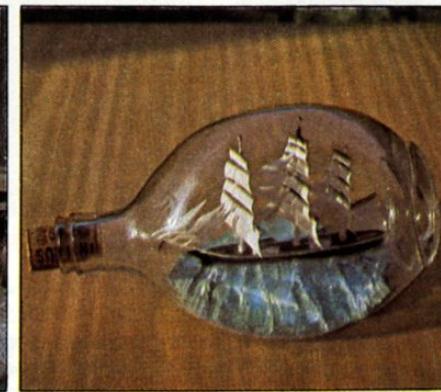
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